TEACHING LITERACY IN TENNESSEE: UNIT STARTER GRADE 1 ELA UNIT CONNECTED TO EARTH SCIENCE

Important Note: *The Unit Starter provides the foundation for English language arts unit planning in connection with earth science. In addition to thoughtful preparation from these resources, there are additional components of the literacy block for which educators will need to plan and prepare. See page 6 for more guidance on planning for other components of the literacy block.*

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Note: A student packet with all daily tasks included can be accessed in a separate document entitled: "Grade 1 Student Packet."

GUIDANCE FOR EDUCATORS

1. WHY IS THE DEPARTMENT PROVIDING UNIT STARTERS?

The research is clear: Reading proficiently—especially reading proficiently early—prepares students for life-long success. To support greater reading proficiency among all students in Tennessee, Governor Haslam, the First Lady, and Commissioner McQueen kicked off the Read to be Ready campaign in February 2016 with a goal of having 75 percent of Tennessee third graders reading on grade level by 2025. Together, we are making progress. High-quality texts that meet grade-level expectations are increasingly making their way into classrooms. Students are spending more time reading, listening, and responding to texts that have the potential to build both skills-based and knowledge-based competencies. However, the first year of the initiative has revealed a need for strong resources to support the growing teacher expertise in Tennessee.

In May of 2017, the Tennessee Department of Education released Teaching Literacy in Tennessee. This document outlines the types of opportunities students need to become proficient readers, writers, and thinkers and includes a literacy unit design framework describing the ways that teachers can create these opportunities. This includes building rich learning opportunities around meaningful concepts within the English language arts block where students listen to, read, speak, and write about sets of texts that are worthy of students' time and attention.

The resources found in each of the Teaching Literacy in Tennessee: Unit Starters are intended to support planning for one full unit aligned to the vision for Teaching Literacy in Tennessee. They are intended to serve as a model to reference as educators continue to design units and compare the alignment of lessons to the vision for Teaching Literacy in Tennessee.

2. WHAT RESOURCES ARE INCLUDED IN A UNIT STARTER?

The Unit Starters include several of the key components in the framework for Teaching Literacy in Tennessee. These components serve as the foundation for strong unit planning and preparation.

Content Goals: Each Unit Starter begins with content goals that articulate the desired results for learners. [Adapted from McTighe, J. & Seif, E. (2011) and Wiggins, G. & McTighe, J. (2013)]

Universal Concept: A concept that bridges all disciplinary and grade-level boundaries. This concept provides educators and students with an organizational framework for connecting knowledge across disciplines into a coherent view of the world.

Universal Concept Example: Interdependence

Unit Concept: The unit concept is the application of the universal concept to one or more disciplines. This concept provides students with an organizational framework for connecting knowledge within the disciplines into a coherent view of the world and provides educators with a focus for unit planning.

Unit Concept Example: Interdependence of living things

Enduring Understandings and Essential Questions: Enduring understandings are the ideas we want students to understand, not just recall, from deep exploration of our unit concept; and essential questions are the corresponding open-ended questions that will guide students' exploration of these ideas. The enduring understandings reflect the abstract, easily misunderstood, "big" ideas of the discipline. They answer questions like "Why?" "So what?" and "How does this apply beyond the classroom?" to support deep levels of thinking. These questions spark genuine and relevant inquiry and provoke deep thought and lively discussion that will lead students to new understandings.

Enduring Understanding Example: People, plants, and animals depend on each other to survive.
Essential Question Example: Why do humans need to preserve trees?

Disciplinary Understandings and Guiding Questions: Disciplinary understandings are the specific ideas and specialized vocabulary of the discipline. These ideas will focus instruction, build disciplinary knowledge, and provide the schema to organize and anchor new words. Student understanding of these content-related ideas is critical to investigation and understanding of the more abstract and transferable ideas outlined in the enduring understandings. Guiding questions are open ended and guide students' exploration of the disciplinary understanding. These questions prompt ways of thinking and support knowledge building within the content areas.

Disciplinary Understanding Example: The structure of plants and the function of each part
Guiding Question Example: Why are roots important to plants?

The concepts for this set of Unit Starters were derived from the vertical progression of Tennessee's Life Science Standards and focus on plant and animal life. These standards are represented below. **Though strong connections are made to the science standards within the unit, it is critical to note that this Unit Starter does not encompass the totality of the identified science standards. The unit is not intended to replace instruction and hands-on application of the science standards and practices.**

Kindergarten

- K. ESS2.1: Analyze and interpret weather data (precipitation, wind, temperature, cloud cover) to describe patterns that occur over time (hourly, daily) using simple graphs, pictorial weather symbols, and tools (thermometer, rain gauge).
- K. ESS2.2: Develop and use models to predict weather and identify patterns in spring, summer, autumn, and winter
- K.ESS3.2: Explain the purpose of weather forecasting to prepare for, and respond to, severe weather in Tennessee.

Grade 1

- 1.ESS1.1: Use observations or models of the sun, moon, and stars to describe patterns that can be predicted.
- 1.ESS1.2: Observe natural objects in the sky that can be seen from Earth with the naked eye and recognize that a telescope, used as a tool, can provide greater detail of objects in the sky.
- 1.ESS1.3: Analyze data to predict patterns between sunrise and sunset, and the change of seasons.

Grade 2

- 2.ESS1.1: Recognize that some of Earth's natural processes are cyclical, while others have a beginning and an end. Some events happen quickly, while others occur slowly over time.

Grade 3

- 3.ESS1.1: Use data to categorize the planets in the solar system as inner or outer planets according to their physical properties.

Texts for Interactive Read Aloud & Shared Reading: Each Unit Starter includes a collection of complex texts to support strong interactive read aloud and shared reading experiences. These texts have been selected to provide regular opportunities for students to engage with rich academic language and build the disciplinary and enduring understandings for the unit. Given the complexity of these texts, teachers should revisit them with students after

the initial read(s) to deepen knowledge. Multiple question sequences and tasks are included in the Unit Starter for most texts; however, teachers are encouraged to add additional readings, questions, and tasks as needed to meet the needs of their students. Teachers may also analyze and select additional suitable texts to extend and/or support the development of the unit concepts. *See page 38 in* Teaching Literacy in Tennessee *for the three-part model for determining text complexity: quantitative dimensions of text complexity; qualitative dimensions of text complexity; and reader and task considerations.*

Suggested Resources for Small Group & Independent Reading: The Unit Starters include a list of suggested resources (texts, videos, online resources) to support a volume of reading on the unit concepts. These materials may be used during small group instruction and/or independent reading and writing activities to support knowledge building for students and to meet students' diverse learning needs. In addition, teachers are encouraged to select additional resources to extend and/or support the development of the unit concepts.

End-of-Unit Task: Each Unit Starter includes an end-of-unit task that provides an opportunity for students to demonstrate their understanding of the unit concept and to answer the essential questions for the unit in an authentic and meaningful context.

Daily Tasks & Question Sequences: Each Unit Starter includes a daily task and question sequence for approximately two weeks of instruction. The question sequences integrate the literacy standards to support students in accessing the complex texts during interactive read aloud and shared reading by drawing students' attention to complex features in the text and guiding students toward the disciplinary and/or enduring understandings of the unit.

The daily tasks provide an opportunity for students to demonstrate their new understandings by applying what they have learned from the texts they read daily across the literacy block. The texts and tasks have been carefully sequenced to support students in building disciplinary understandings over the course of the unit, so students are able to successfully engage in the end-of-unit task.

Sidebar Notes: As you navigate this document, you will also see that sidebar notes have been included throughout. These notes are intended to: 1) highlight additional rationale that may be of interest to educators; and 2) point out specific changes that have been made to the second iteration of Unit Starters based on feedback from the first set.

3. WHAT RESOURCES ARE NOT INCLUDED IN A UNIT STARTER?

These resources provide the foundation for unit planning but are not intended to be a comprehensive curriculum resource. Instead, educators must thoughtfully prepare from the resources that are included in the Unit Starter by adding additional resources as appropriate to meet instructional goals and student needs.

In addition, teachers will need to plan for other components of the English language arts block. The Unit Starters **do not include** the following:

- Instructional guidance for small group and independent reading and writing
    - Students should be grouped flexibly and resources selected to meet specific and unique needs of students, which may change over time.
- Instructional guidance and resources for explicit foundational skills instruction and foundational skills practice in and out of context
    - Reading foundational skills instruction should follow a year-long scope and sequence and be responsive to the unique needs of your students.

Please refer to Teaching Literacy in Tennessee for definitions of new or unfamiliar terms used in this document.

4. HOW SHOULD I USE THE RESOURCES IN THE UNIT STARTER TO PLAN MY UNIT?

Interactive Read Aloud and Shared Reading Experiences
To prepare for the unit, start by thoroughly reviewing the resources that are included in the Unit Starter. These resources are designed to support students in thinking deeply about the unit concepts and the enduring understandings embedded in complex text through interactive read aloud and shared reading experiences. To support this step, a unit preparation protocol and a lesson preparation protocol are included in Appendices A and B.

Small Group Reading and Writing
In addition to interactive read aloud and shared reading experiences, plan small group instruction to support the diverse needs of students in your classroom. Group students flexibly and select texts that address students' strengths (e.g., prior knowledge) and meet their specific needs:

- Accuracy/word analysis: Some students may need additional practice with foundational reading skills that have already been taught and now are applied to reading authentic texts.
- Fluency: Some students may be strong decoders but still struggle to read fluently, which holds them back from successful comprehension.
- Comprehension: Some students may require support for their use of comprehension skills and strategies for building knowledge and acquiring academic vocabulary.

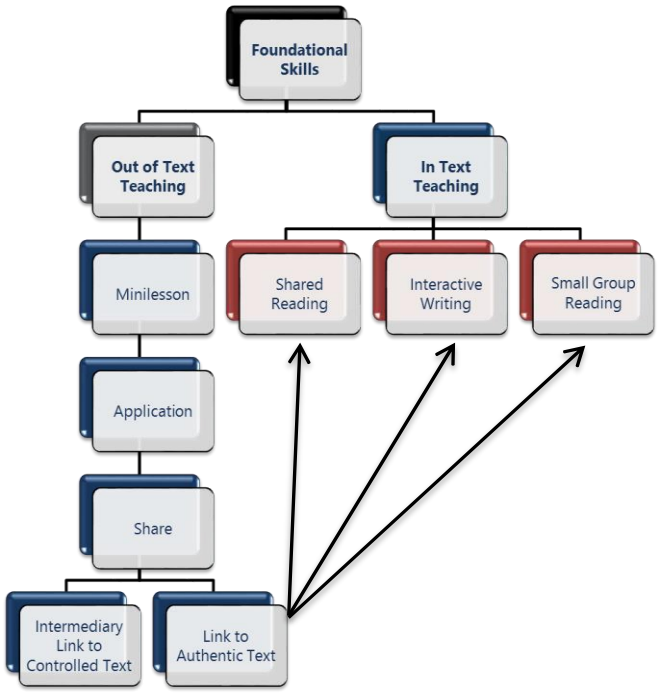
The Unit Starters include a list of suggested resources (texts, videos, online resources) that can be used to support small group instruction.

Modeled, Shared, and Interactive Writing
While important for a teacher to use modeled, shared, and interactive writing in order to support student independence with the tasks, please note that the units include few call-outs, if any, for modeled, shared, and interactive writing in the unit. To prepare students for success on the daily and end-of-unit tasks in the Unit Starter, teachers should plan for modeled, shared and interactive writing opportunities. Modeled writing is an instructional strategy where the teacher explicitly demonstrates the writing process for different forms and purposes. Shared writing is an instructional strategy where the teacher and students compose a text together with the teacher acting as the scribe. Interactive writing is an extension of shared writing in which the teacher and students compose a text together with the teacher strategically sharing the pen during the process.

Independent Reading and Writing
The Tennessee English Language Arts Standards call for students to read a range of literary and informational texts and to engage in a high volume of reading independently. The standards also call for students to have aligned writing experiences that develop their skills as writers and support their comprehension of rich, complex texts. Plan for how you will use the suggested resources to engage students in a variety of reading and writing experiences. Consider setting up systems for accountability during independent work time such as one-on-one conferences, center assignments, and/or accountable independent reading structures.

See pages 41-43 in Teaching Literacy in Tennessee for a description of these instructional strategies and their purpose within the literacy block.

Explicit Foundational Skills Instruction
It is recommended that educators consult the Foundational Literacy Standards and use a systematic phonics sequence (often found within a phonics program) for foundational skills instruction in conjunction with the resources in the Unit Starter. Strong foundational skills instruction follows an intentional, research-based progression of foundational skills that incorporates phonological awareness, phonics, and word recognition.



Foundational Skills Practice Out of Text and In Text
Strong foundational skills instruction includes opportunities for students to practice their newly acquired skills out of text and in text.

Out-of-text instruction may take the form of mini-lessons and hands-on application through activities, such as word sorts or the use of manipulatives.

In-text instruction provides opportunities across the literacy block for students to further apply their new learning in authentic reading and writing texts. Foundational skills assessments should be ongoing and should be used to determine when students have mastered the skill and are ready to move on to the next skill.

See pages 78-79 in Teaching Foundational Skills Through Reading and Writing Coach Training Manual *for more information about the relationship between out-of-text and in-text teaching.*

Structures for Academic Talk and Collaboration
The Unit Starters include suggestions for questions and daily tasks, but they do not include guidance on how to structure sharing/discussion time. Consider planning how your students will engage with you and each other when responding to complex text orally or in writing by incorporating things like expectations for talk time, sentence starters, hand signals, etc.

5. WHAT MATERIALS DO I NEED TO ORDER AND PRINT?

Texts for Interactive Read Aloud and Shared Reading
Each of the texts included in the Unit Starters can be purchased or accessed online or through a local library. A list of these texts is included in the Unit Starter materials. Educators will need to secure, purchase, or print one copy of each text selected to support interactive read aloud experiences. Each student will need a copy of the selected text for the shared reading experiences, unless the text is projected or displayed large enough for all students to read.

Suggested Texts for Small Group and Independent Reading
Additionally, each of the texts suggested for small group and independent reading can be purchased or accessed online or through a local library.

Materials to Be Printed
The Unit Starters can be accessed digitally here.

Educators may also consider printing:

- **Question Sequence –** Teachers may want to print question sequences or write the questions on sticky notes to have them available during interactive read aloud and shared reading experiences.
- **Daily Task –** Teachers may want to print the teacher directions for the daily task.
- **End-of-Unit Task –** Teachers may want to print the teacher directions for the end-of-unit task.

UNIT OVERVIEW

The diagram on the next page provides a high-level overview of the unit.

Guidance for the central text and suggested strategy for each day of instruction has been provided in the Unit Starter. It is important to note that this guidance does not reflect a comprehensive literacy block. Educators should support students in developing their expertise as readers and writers by flexibly utilizing a variety of instructional strategies throughout the literacy block.

Educators are also encouraged to use the guidance from this Unit Starter flexibly based on the needs, interests, and prior knowledge of students. For example, teachers may decide to re-read a text, pull in supplementary texts, or provide additional scaffolding based on their knowledge of their students. Teachers are encouraged to be strategic about how many instructional days to spend on this unit.

This Unit Starter is organized around three questions: (1) What are the desired results for learners? (2) How will students demonstrate these desired results? (3) What learning experiences will students need to achieve the desired results?

TN Department of Education

UNIT OVERVIEW

WHAT ARE THE DESIRED RESULTS FOR LEARNERS?

By the end of this unit, students will have developed an understanding of the following concepts and will be able to answer the following questions…

Universal Concept:
Patterns

Unit Concept:
Observable Patterns in the Earth, Sun, Moon, & Stars

Enduring Understandings:
Bodies in space move and change in appearance according to predictable patterns.
Observations over time help us detect, describe, and predict patterns of movement and change in bodies in space.

Essential Questions:
How and why do bodies in space (Earth, sun, moon, stars) move and "change"? How do we know that bodies in space move and change? (How can we tell?)

Disciplinary Understandings:
The Earth's position, rotation, and revolution cause patterns of change over shorter and longer periods of time (e.g., day/night, hours of daylight, seasons).

The relationships between the Earth's position and movements and the Sun creates observable, predictable patterns in seasons.

Patterns in what we observe in the night sky are caused by movements and/or changing positions of the Earth and moon.

Scientific observation, inventions, and exploration expand what we know and understand about bodies in space (e.g., their characteristics, patterns of movement.)

Guiding Questions:
How does the Earth move and what happens as a result? What causes the [patterns in] seasons? When and why does what we "see" (observe) in the night sky change? How do we know what we know about the Earth, sun, moon, and stars? Have we always known these things?

HOW WILL STUDENTS DEMONSTRATE THESE DESIRED RESULTS?

Students will synthesize their learning from the unit texts and demonstrate understanding in the following authentic and meaningful context …

End-of-Unit Task:
Part 1:
You are an astronomer working for U.S. Space and Rocket Center. You have been asked to create a student-friendly brochure that you will share with students during a school field trip that explains (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. Use illustrations and descriptions to explain these observable patterns. Your brochure should include:

- a front cover that illustrates and names the topic of the brochure;
- a section that illustrates and describes observable patterns from the day and night sky and explains why we observe those patterns;
- a section that illustrates and describes the pattern in Earth's seasons and explains why changes in season occur; and
- a section that illustrates and describes phases of the moon and explains why we observe those patterns.

Be sure to:

- provide some sense of closure;
- use details from the texts we have read; and
- use vocabulary words from the word display in our unit.

Part 2:
When you're almost finished with your brochure, practice presenting your information to a co-worker (student partner) before you deliver it to the students on the field trip. Seek your co-worker's feedback on your writing.

WHAT LEARNING EXPERIENCES WILL STUDENTS NEED TO ACHIEVE THE DESIRED RESULTS?

Students will achieve the desired results as a result of deep exploration of complex texts through interactive read-aloud (IRA) and shared reading (SR) experiences …

On Earth by G. Brian Karas (IRA)

What Makes Day and Night by Franklyn M. Branley (SR)

Sunshine Makes the Seasons by Franklyn M. Branley (SR)

The Reasons for Seasons by Gail Gibbons (IRA)

Starry Messenger by Peter Sis (IRA)

Looking Through a Telescope by Linda Bullock (SR)

The Big Dipper by Franklyn M. Branley (SR)

Coyote Places the Stars by Harriet Peck Taylor (IRA)

The Moon Book by Gail Gibbons (IRA)

Papa, Please Get the Moon for Me by Eric Carle (SR)

How the Moon Regained Her Shape by Janet Ruth Heller (IRA)

If You Decide to Go to the Moon by Faith McNulty (IRA)

UNIT CONTENT GOALS

This Unit Starter was created with several levels of conceptual understanding in mind. Each conceptual level serves an instructional purpose, ranging from a universal concept that bridges disciplinary boundaries to concrete disciplinary understandings that focus instruction around specific schema. The diagram below shows the conceptual levels and questions that were considered during the development of all of the Unit Starters. The diagram on the following page outlines the specific concepts and questions for this First Grade Unit Starter.

Universal Concept: A concept that bridges all disciplinary and grade-level boundaries (i.e., super-superordinate concept). This concept provides students with an organizational framework for connecting knowledge across disciplines into a coherent view of the world. (Example: Interdependence)

Unit Concept: The application of the crosscutting concept to one or more disciplines (i.e., superordinate concept). This concept provides students with an organizational framework for connecting knowledge within the disciplines into a coherent view of the world and provides educators with a focus for unit planning. (Example: Interdependence of living things)

Enduring Understandings: The ideas we want students to understand, not just recall, from deep exploration of our unit concept. The enduring understandings reflect the abstract, easily misunderstood, "big" ideas of the discipline. They answer questions like "Why?" "So what?" and "How does this apply beyond the classroom?" to support deep levels of thinking. (Example: People, plants, and animals depend on each other to survive.)

Essential Questions: Open-ended questions that guide students' exploration of the enduring understandings or "big" ideas of the discipline. These questions spark genuine and relevant inquiry and provoke deep thought and lively discussion that will lead students to new understandings. (Example: Why do humans need to preserve trees?)

Disciplinary Understandings: The specific ideas and specialized vocabulary of the discipline. These ideas will focus instruction, build disciplinary knowledge, and provide the schema to organize and anchor new words. Student understanding of these key ideas is critical to investigation and understanding of the more abstract and transferable ideas outlined in the enduring understandings. (Example: The structure of plants and the function of each part)

Guiding Questions: Open-ended questions that guide students' exploration of the disciplinary understandings in the unit and refer specifically to the domain (e.g., ecosystems). These questions prompt ways of thinking and perceiving that are the province of the expert. (Example: Why are roots important to plants?)

UNIT CONTENT GOALS

The diagram below outlines the specific concepts and questions for the First Grade Unit Starter.

Universal Concept:
Patterns

Unit Concept:
Observable Patterns in the Earth, Sun, Moon, & Stars

Enduring Understanding Bodies in space move and change in appearance according to predictable **patterns**.		**Enduring Understanding** Observations over time helps us detect, describe, and predict **patterns of movement** and change in bodies in space.	
Essential Question How and why do bodies in space (earth, sun, moon, stars) move and "change"?		**Essential Question** How do we know that bodies in space move and change? (How can we tell?)	
Disciplinary Understanding The Earth's position, rotation, and revolution cause **patterns** of change over shorter and longer periods of time (e.g., day/night, hours of daylight, seasons).	**Disciplinary Understanding** The relationship between the Earth's position & movements and the Sun creates observable, predictable **patterns** in seasons.	**Disciplinary Understanding** **Patterns** in what we observe in the night sky are caused by movements and changing positions of the Earth and moon.	**Disciplinary Understanding** Scientific observation, inventions, and exploration expand what we know and understand about bodies in space (e.g., their characteristics, **patterns** of movement).
Guiding Question How does the Earth move and what happens as a result?	**Guiding Question** What causes the [patterns in] seasons?	**Guiding Question** When and why does what we "see" (observe) in the night sky change?	**Guiding Question** How do we know what we know about the Earth, sun, moon, and stars? Have we always known these things?

1.ESS1.1: Use observations or models of the sun, moon, and stars to describe patterns that can be predicted.
1.ESS1.2: Observe natural objects in the sky that can be seen from Earth with the naked eye and recognize that a telescope, used as a tool, can provide greater detail of objects in the sky.
1.ESS1.3: Analyze data to predict patterns between sunrise and sunset, and the change of seasons.

UNIT STANDARDS

The questions and tasks outlined in this Unit Starter are connected to the following Tennessee English Language Arts and Science Standards. As you will see later in the Unit Starter, the question sequences and tasks for each text integrate multiple literacy standards to support students in accessing the rich content contained in the texts.

ALIGNED STANDARDS: INFORMATIONAL TEXT

1.RI.KID.1 Ask and answer questions about key details in a text.

1.RI.KID.2 Identify the main topic and retell key details of a text.

1.RI.KID.3 Using graphic organizers or including written details and illustrations when developmentally appropriate, describe the connections between two individuals, events, ideas, or pieces of information in a text

1.RI.CS.4 Determine the meaning of words and phrases in a text relevant to a grade 1 topic or subject area

1.RI.CS.5 Know and use various text features to locate key facts or information in a text

1.RI.CS.6 Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

1.RI.IKI.7 Either orally or in writing when appropriate, use the illustrations and words in a text to describe its key ideas.

1.RI.IKI.8 Identify the reasons an author provides to support points in a text.

1.RI.IKI.9 Identify basic similarities and differences between two texts on the same topic including written details and illustrations when developmentally appropriate.

1.RI.RRTC.10 With prompting and support, read informational texts of appropriate complexity for grade 1.

ALIGNED STANDARDS: LITERATURE

1.RL.KID.1 Ask and answer questions about key details in a text.

1.RL.KID.2 Retell stories, including key details, and demonstrate understanding of their central message or lesson.

1.RL.CS.4 Identify words and phrases in stories and poems that suggest feelings or appeal to the senses.

1.RL.CS.5 Explain major differences between books that tell stories and books that give information, drawing on a wide range of text types.

1.RL.IKI.7 Either orally or in writing when appropriate, use illustrations and words in a text to describe its characters, setting, or events.

1.RL.IKI.9 Compare and contrast the adventures and experiences of characters in stories including written details and illustrations when developmentally appropriate.

1.RL.RRTC.10 With prompting and support, read stories and poems of appropriate complexity for grade 1.

ALIGNED STANDARDS: WRITING

1.W.TTP.1 With prompting and support, write opinion pieces introducing the topic or text, stating an opinion, supplying a reason for the opinion, and providing some sense of closure.

1.W.TTP.2 With prompting and support, write informative/explanatory texts, naming a topic, supplying some facts about the topic, and providing some sense of closure.

1.W.TTP.3 With prompting and support, write narratives recounting an event, including some details to describe actions, thoughts, and feelings; use time order words to signal event order and provide some sense of closure.

1.W.PDW.4 With guidance and support, produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade specific expectations for writing types are defined in standards 1-3 above.)

1.W.PDW.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from others, and add details to strengthen writing as needed.

1.W.RBPK.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

1.W.RW.10 With guidance and support from adults, engage routinely in writing activities to promote writing fluency and build writing stamina.

ALIGNED STANDARDS: SPEAKING & LISTENING

1.SL.CC.1 Participate with varied peers and adults in collaborative conversations in small or large groups about appropriate 1st grade topics and texts.

1.SL.CC.2 Ask and answer questions about key ideas in a text read aloud or information presented orally or through other media.

1.SL.CC.3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

1.SL.PKI.4 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

1.SL.PKI.5 Add drawings or other visual displays to descriptions, when appropriate, to clarify ideas, thoughts, and feelings.

1.SL.PKI.6 With prompting and support, speak in complete sentences when appropriate to task and situation.

ALIGNED STANDARDS: SCIENCE

1.ESS1.1: Use observations or models of the sun, moon, and stars to describe patterns that can be predicted.

1.ESS1.2: Observe natural objects in the sky that can be seen from Earth with the naked eye and recognize that a telescope, used as a tool, can provide greater detail of objects in the sky.

1.ESS1.3: Analyze data to predict patterns between sunrise and sunset, and the change of seasons.

TEXTS FOR INTERACTIVE READ ALOUD & SHARED READING

These texts have been selected to provide regular opportunities for students to engage with rich academic language and to build the disciplinary and enduring understandings for the unit. They have been vetted for quality and complexity to support strong interactive read aloud and shared reading experiences.

The texts selected for interactive read aloud are intended to build students' comprehension of vocabulary, rich characters, engaging plots, and deep concepts and ideas across a variety of genres. These texts will typically be 1-3 grade levels above what students can read on their own.

The texts selected for shared reading are intended to provide opportunities for students to practice newly acquired foundational skills, to develop reading fluency, and to build knowledge across a variety of genres. Shared reading texts should be appropriately complex text that students can read with teacher guidance and support. Teachers will need to take the grade level and time of year into account when deciding if the shared reading texts are appropriate for their students. Teachers will also need to consider students' current abilities and the pace at which students need to grow to meet or exceed grade-level expectations by the end of the year. If the shared reading texts included in the Unit Starter are not appropriate for the specific group of students and time of year, educators are encouraged to make an informed decision about selecting a different text for shared reading. The shared reading texts in this Unit Starter are appropriate for instruction closer to the end of the academic school year. Later in the Unit Starter, you will see an example of different texts that may be more appropriate for different times of the year.

While preparing for instruction, educators are urged to carefully consider the needs and interests of the readers, including how to foster and sustain new interests, and to be strategic about the types of tasks that will support readers in deeply engaging with these rich texts. Teachers should also consider how they will make connections to students' prior knowledge and students' cultural and previous academic experiences. Teachers need to consider the vocabulary demands of the text and the level of support readers will need to deeply understand the text.

TITLE	AUTHOR
On Earth	G. Brian Karas
What Makes Day and Night	Franklyn M. Branley
Sunshine Makes the Seasons	Franklyn M. Branley
The Reasons for Seasons	Gail Gibbons
Starry Messenger	Peter Sis
Looking Through a Telescope	Linda Bullock
The Big Dipper	Franklyn M. Branley
Coyote Places the Stars	Harriet Peck Taylor
The Moon Book	Gail Gibbons
Papa, Please Get the Moon for Me	Eric Carle
How the Moon Regained Her Shape	Janet Ruth Heller
If You Decide to Go to the Moon	Faith McNulty

SUGGESTED RESOURCES FOR SMALL GROUP & INDEPENDENT READING

These resources can be used to support a volume of reading on the unit concepts. These materials may be used during small group instruction and/or independent reading and writing activities to support knowledge building for students and to meet students' diverse learning needs.

TITLE (TEXTS, VIDEOS & ELECTRONIC RESOURCES)	AUTHOR
When the Moon is Full (poems)	Penny Pollock
The Moon Seems to Change	Franklyn M. Branley
Why Does the Earth Spin? And Other Questions About Our Planet	Mary Kay Carson
Interplanet Janet	Schoolhouse Rock
Birth of the Solar System	National Geographic
Our Sun	Kristine Carlson
Stargazers	Gail Gibbons
There's No Place Like Space: A Cat in the Hat Book	Tish Rabe
Faces of the Moon	Bob Crelin
Our Stars	Anne Rockwell
The Sky Is Full of Stars	Franklyn M. Branley
Space: A Nonfiction Companion to Midnight on the Moon	Will Osborne and Mary Pope Osborne
Stars	Kristine Asselin
The Disappearing Moon	Reading A-Z
On the Moon	Reading A-Z

UNIT VOCABULARY

The following list contains vocabulary words from the interactive read aloud and shared reading texts that warrant instructional time and attention. Teachers should attend to these words **as they are encountered in the texts** to build students' vocabulary and to deepen their understanding of the unit concepts. Educators are encouraged to identify vocabulary that might be unfamiliar to students and to determine how they will teach those words (implicit, embedded, or explicit instruction) based on knowledge of their students. See Appendix C for an example routine for explicit vocabulary instruction.

Note: In addition to this comprehensive list, each question sequence lists the newly introduced vocabulary words that warrant instructional time and attention during the specific reading. These lists also provide guidance as to how the specific words could be taught.

Educators are also encouraged to dedicate a space in their classrooms to record unit vocabulary. This will provide a reference point for the students as they read, write, and talk about the unit topics. Through repeated attention to these words over the course of the unit, students

Day 1	Day 2	Day 3	Day 4	Day 5
revolve orbit gravity	rotate spin axis tilts hemisphere equator motion speed photograph shadow North Pole South Pole sunrise sunset noontime midnight	experiment	leans	equinox solstice midday ancient climate hibernation temperature
Day 6	**Day 7**	***Day 8***	**Day 9**	**Day 10**
		universe tradition observe publish inspired	telescope scientists planet crater	dipper compass north sailors imagine

Day 11	Day 12	Day 13	Day 14	Day 15
	starry heavens arranged star pictures gaze	astronomers satellite reflects near disappeared sliver reappear	phases crescent waxing quarter gibbous waning	twirled blushed stammered tormented skypath shrink comet trudged gleamed dreamlike admirers dwindles
Day 16				
shield sizzle freeze horizon atmosphere				

ON EARTH – READING 1, QUESTION SEQUENCE 1, DAILY TASK 1

TEXT
Text: *On Earth* **Question Sequence:** First Read **Strategy:** Interactive Read Aloud

Note: In many cases, multiple question sequences are included for one text. These sequences intentionally build on each other in service of deepening students' analysis of the text and understanding of the unit's disciplinary and enduring understandings. Teachers may also decide to read the text in its entirety prior to asking questions.

Note: Each instructional strategy has a different purpose. Interactive read aloud is a time for students to actively listen and respond to above grade level complex text. The texts selected for interactive read aloud are intended to build students' comprehension of vocabulary, rich characters, engaging plots, and deep concepts and ideas across a variety of genres. These texts will typically be 1-3 grade levels above what students can read on their own. Shared reading is an interactive experience in which students join in the reading of an appropriately complex text with teacher support. Texts used for shared reading are texts that students can read with teacher support. The purpose of shared reading is to provide opportunities for students to practice their newly acquired foundational skills, develop reading fluency, and build knowledge. These texts should be chosen by considering students' current abilities and the pace at which they need to grow to end the year meeting or exceeding grade-level expectations.

TEXT COMPLEXITY ANALYSIS
QUANTITATIVE COMPLEXITY MEASURES
AD540L
QUALITATIVE COMPLEXITY MEASURES

TEXT STRUCTURE	LANGUAGE FEATURES
The structure of this text is very complex. The text discusses a range of ideas, including Earth's rotation and revolution and how they impact our understanding of time (days, years). The connections between these ideas are not explicitly stated. The graphics in the text enhance the reader's understanding, i.e., illustrations that show the Earth revolving around the sun. But, because many of the key concepts in this text are implied, the illustrations are often necessary for comprehension. Other structural features, like sentences written at angles and sentences that extend across multiple pages, add to the text's structural complexity.	The language features of this text are very complex. The primary source of language complexity is this text's use of domain-specific vocabulary. The text's content vocabulary includes words like axis, universe, orbit, tilts, and equator. In addition, there is some complex descriptive and figurative language, such as "spinning like a merry-go-round" and "circles the sun in a great sweep".
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is very complex. The text describes how the Earth moves and how its movement creates patterns such as day and night and the changing seasons. It also discusses the relationship between Earth's movement and our understanding of time, such as days and years. The purpose of sharing information about Earth's movements is not explicit yet is fairly easy to infer with support from text features.	The knowledge demands of this text are very complex. It assumes that readers have some prior knowledge about the solar system. There is a mixture of recognizable ideas and challenging abstract concepts about Earth and the solar system. A glossary defines basic terms, such as equator, sphere, rotate, axis, revolve, orbit, pole(s), and gravity.

Note: The lesson objectives for each reading articulate the integrated understandings, including ELA, disciplinary, and enduring understandings, students will grasp and/or build on as a result of engaging with the text. The question sequence for each reading will draw students' attention to complex features of the text that will support or challenge students. Over the course of the unit, the learning objectives for each reading build intentionally on one another to provide a coherent learning experience for students. This coherence is also supported through the intentional sequence of texts.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that the Earth revolves around the sun in an orbit.

To achieve this understanding, students will:

- Use language and graphics from the text to describe the Earth's movements; and
- Determine the meaning of key words and phrases using context clues and graphics.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- revolve (explicit)
- orbit (explicit)
- gravity (implicit)

Teacher's Note: The language from the text's glossary might be used to help introduce or reinforce these vocabulary words: "The Earth revolves around the sun in a big oval orbit."

Note: The daily tasks build over the course of the unit to support students in developing the knowledge, vocabulary, and skills they will need in order to complete the end-of-unit task. Expectations for students' performance on the daily tasks are aligned with the disciplinary standards and the grade-level literacy standards for writing and speaking & listening.

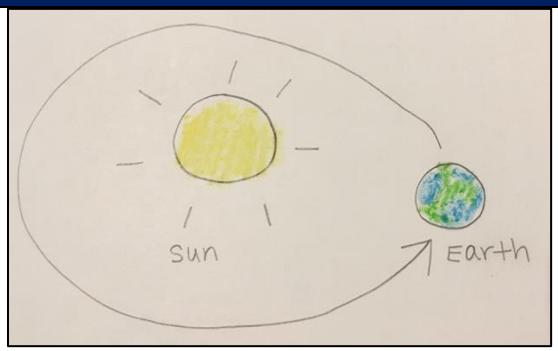
DAILY TASK

You are an author like Brian Karas. Draw and label a picture that illustrates the Earth and the sun. Your picture should help show how the Earth moves. Be sure to label your drawing with appropriate captions. Then, write an explanation of your drawing. Be sure to use the words "revolve" and "orbit" in your written explanation.

Your writing should:

- introduce your topic;
- supply some facts about the topic;
- use vocabulary from the text; and
- provide some sense of closure.

Note: Tasks throughout the unit are considered to be independent and autonomous writing opportunities where students express their learning through their own writing. Teachers are encouraged to integrate strategies, such as modeled, shared, and interactive writing, in order to equip students with the skills and strategies needed to complete the tasks. The use of these other writing strategies should not demonstrate a carbon copy of the task before students complete it. It is important for students to capture their own thinking as they complete each task.

POSSIBLE STUDENT RESPONSE
 The Earth moves. The Earth revolves around the sun. That means it moves in a circle around the sun. This circle is called an orbit.

Note: You will not see one specific skill indicated as the focus for the reading. Educators are encouraged to support students in arriving at the objectives for the reading by integrating multiple literacy standards. To that end, the question sequences integrate multiple literacy standards. The literacy standards will come into play as students access the rich texts included in the Unit Starter. In this way, multiple literacy standards naturally support students in accessing and making meaning of the text.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
	Teacher's Script: "This book tells us all about how the Earth moves. The Earth moves in different ways. Today, we're going to focus on one way the Earth moves. The word we're going to use to describe this movement is 'revolve'." *Teacher's Note: Explicitly introduce this vocabulary word and the word "orbit". Then, begin the interactive read aloud.*	
Page 1	What phrase did the author use to describe the Earth? What does that phrase tell us about the Earth?	The author said the Earth is "spinning like a merry go round." It tells us that the Earth moves. It spins around, like the way a merry go round does.
Pages 3-4 The Earth spins…	On this page, we learn more information about how the Earth moves from both the words and the illustrations. I'm going to read the sentence on this page again, and as I do I want you to look closely at the	The Earth spins and circles the sun. The arrows point around the sun so I think the Earth moves around the sun.

	illustration…What do we know about how the Earth moves? Think of a sentence that describes how the Earth moves. Then, tell it to your partner.  *(This is an opportunity for a collaborative talk structure.)* Let's think more about this phrase – "the Earth…circles the sun in a great sweep". What does "circles the sun" mean? How does the illustration help show how the Earth circles the sun? *Teacher's Note: Some students may also want to talk about the arrows that show the Earth's rotation. If they do, let them know that we will pay attention to those arrows later when we talk about another way that the Earth moves*.	It means the Earth goes in a circle around the sun. This is the Earth and this is the sun. These arrows point around the sun. The arrows look like they're going in a circle.
Pages 11-12 While we spin…	We talked about the word "orbit" before we started reading this book. We said it was an important word that we would need to know to understand this book. How does the author use the word "orbit" on this page? How do the illustrations on these pages help us understand what the word "orbit" means? 	The author uses the word orbit to talk about how the Earth moves around the sun. The author says the Earth travels in an orbit around the sun. The illustration shows the Earth moving in a circle around the sun. The illustration also shows that in one year the Earth moves all the way around the sun in a circle.
Pages 17-18 The Earth tilts…	What do we learn about the Earth's movement by looking at this illustration? This illustration reminds me of the one we looked at on pages 11-12. Let's compare these two illustrations. How are they similar? How are they different?	The Earth moves around the sun. The seasons change as the Earth moves around the sun. Both illustrations show the sun in the middle of the page and the Earth moving in a circle around it. One of them shows how each month the Earth moves a little bit more around the sun. The other one shows the different seasons that happen as the Earth moves around the sun.

Pages 23-24 We spin and…	Here we read the word “revolve”, which we talked about before we started reading this book. What other word in this sentence gives us a clue about what the word “revolve” means? Given what you’ve learned so far in this text, use the word “revolve” in a sentence.	“we circle” The Earth revolves around the sun.
Pages 27-28	These are the final pages of the book. Let’s use what we’ve learned so far about the Earth and the sun to make some inferences about what we see on this page. What is this illustration showing us?	The Earth and other planets are revolving around the sun. All the planets in the solar system revolve around the sun.

ON EARTH – READING 2, QUESTION SEQUENCE 2, DAILY TASK 2

TEXT
Text: *On Earth* **Question Sequence:** Second Read **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD540L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is very complex. The text discusses a range of ideas, including Earth's rotation and revolution and how they impact our understanding of time (days, years). The connections between these ideas are not explicitly stated. The graphics in the text enhance the reader's understanding, i.e., illustrations that show the Earth revolving around the sun. But, because many of the key concepts in this text are implied, the illustrations are often necessary for comprehension. Other structural features, like sentences written at angles and sentences that extend across multiple pages, add to the text's structural complexity.	The language features of this text are very complex. The primary source of language complexity is this text's use of domain-specific vocabulary. The text's content vocabulary includes words like axis, universe, orbit, tilts, and equator. In addition, there is some complex descriptive and figurative language, such as "spinning like a merry-go-round" and "circles the sun in a great sweep".
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is very complex. The text describes how the Earth moves and how its movement creates patterns such as day and night and the changing seasons. It also discusses the relationship between Earth's movement and our understanding of time, such as days and years. The purpose of sharing information about Earth's movements is not explicit yet is fairly easy to infer with support from text features.	The knowledge demands of this text are very complex. It assumes that readers have some prior knowledge about the solar system. There is a mixture of recognizable ideas and challenging abstract concepts about Earth and the solar system. A glossary defines basic terms, such as equator, sphere, rotate, axis, revolve, orbit, pole(s), and gravity.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that the Earth rotates on an axis and that this rotation causes day and night.

To achieve this understanding, students will:

- identify key details from the text that describe Earth's rotation;
- identify key details from the text that help explain the causes of day and night; and
- use words and illustrations in the text to describe the Earth's movement and patterns of day and night.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- rotate (explicit)
- spin (if students are unfamiliar with this word, teach it explicitly; otherwise use it to reinforce students' understanding of the meaning of "rotate")
- axis (explicit)
- tilts (implicit)
- hemisphere (embedded)
- equator (implicit)

The following words are reinforced during this reading.

- revolve
- orbit
- gravity

Teacher's Note: Use this definition in the text's glossary to help explain key terms: "The Earth spins like a top. It rotates around an imaginary line that goes from top to bottom, the Earth's axis."

DAILY TASK

Collaborative Task: "We are going to learn more about Earth's movement by rereading the text *On Earth*. We're also going to be thinking about day and night. We are going to create a K-Q-L Chart. As a class, we will think about what we **know** about Earth's motion and day and night, as well as the **questions** we might have about how Earth moves and day and night. As we read, you will think about what you've **learned** from the text." This task will be completed as a class before and during the second reading of *On Earth*.

Teacher's Note: Answers will vary depending on students' background knowledge.

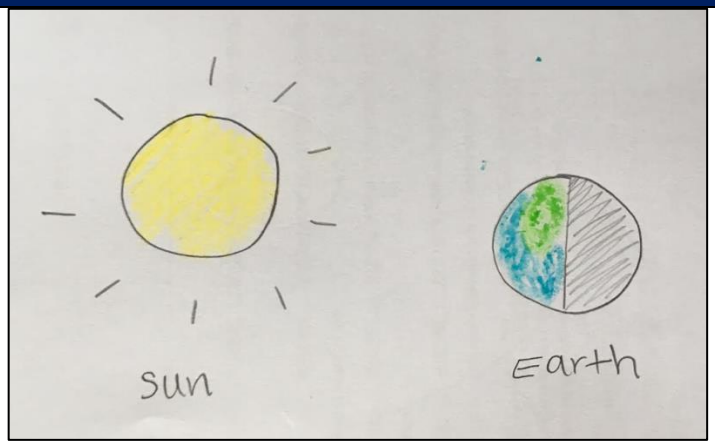
What We Know About • Earth's movement • Day and night	**Questions We Have About** • Earth's movement • Day and night	**What We've Learned About** • Earth's movement • Day and night
During the day, the sun shines.	How does the Earth move?	Planet Earth is constantly in motion.

At night, we see the moon. Earth moves around the sun. During day time, it is warmer. During night time, the temperature is cooler.	What causes day and night?	Earth spins on its axis. When Earth spins, the sun shines on different parts causing day and night. When we face the sun, its light, and we have day. When we face away from the sun, it is dark, and we have night.

Independent Task:
Now you are going to be an author and illustrator. Draw and label a picture that illustrates the Earth's rotation. Your picture should help show how the Earth's rotation causes day and night. Be sure to label your picture with appropriate captions. Then, explain your drawing to a partner.

Teacher's Note: Students will add details to their drawing and oral explanation after the first read of What Makes Day and Night*. After the second read, students will write a paragraph explaining how the Earth's rotation causes day and night.*

POSSIBLE STUDENT RESPONSE



Oral explanation: This picture shows the sun and the Earth. This part of the Earth is facing the sun. It's daytime on that part of the Earth. This part of the Earth is facing away from the sun so it has nighttime.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before reading	*Teacher's Script: "The first time we read this book we focused our thinking on how the Earth revolves around the sun. Today we're going to read this book again and think about how the Earth moves in a different way. We're going to learn about how the Earth rotates and how that rotation creates patterns in the day and night sky." (Explicitly introduce "rotate" or "rotation" as a key vocabulary term for this reading.)*	
Pages 3-4 (Starts, "The Earth spins…")	*Teacher's Script: "Let's think about text, text features, and illustrations on this page. I notice the illustration uses the label "rotation" (point to the label) and the label "axis" (point to the label). I can use the labels and the illustrations to help me determine that the Earth rotates when it spins on its axis."* *Teacher's Note: Use gesture with fingers to show spinning. If needed, prompt students to think about other objects they know that spin/rotate, i.e., a toy top, CDs or records, fidget spinners, merry go rounds, etc.* What's the difference between the Earth's rotation and the Earth's revolution? How does the text help us understand that difference? *Teacher's Note: It may be helpful to review the meaning of rotate and revolve and/or have students use those words in oral sentences.*  *(This is an opportunity for a collaborative talk structure.)*	The Earth rotates on its axis. It spins around. The Earth revolves around the sun. That means it moves in a circle around the sun. The illustration has arrows that show the two movements Earth makes. The arrows show us that Earth rotates on its axis and revolves around the sun.
Page 5 (Starts, "We face the sun…")	Let's use what the text says to think about when we have day. What are some characteristics of daytime?	During daytime, we have light and warmth from the sun.
Pages 9-10 (Starts, "At night we turn…")	Let's use the text and illustrations on this page to help us understand night. What happens during nighttime?	Night happens when a part of the Earth turns away from the sun. The part of the Earth that faces the sun has daylight.

	Teacher's Note: It may help to prompt students to point out different details in the illustration, like where the sun and moon are.	
Pages 11-12 (Starts, "While we spin…")	What does this illustration show? *Teacher's Note: This can be an opportunity to review and reinforce the difference between "revolve" and "rotate".* What do we notice about the pictures of Earth on this page? Possible Probing Questions: How does the illustration of the Earth in January look different from the one in April? In March? Or, what do you notice about how the author shows day and night in these illustrations? What motion causes Earth to have day and night?	It shows the Earth revolving around the sun. It shows what the Earth looks like during each month as it revolves. Some of the Earths are dark and some are light. The illustrations show that the part of the Earth that is facing the sun is always light and the part that is facing away from the sun is always dark. Earth rotates, or spins, on its axis. When the Earth spins it is facing toward or away from the sun. This causes us to have day and night.
Pages 15-16	This illustration has a helpful detail related to day and night. What part of the illustration shows day and night? What would happen if the boy in this picture reached over and spun the globe?	The globe! The sun is shining through the window. The part of the globe that is facing the window and the sun is light up, like in daytime. The part of the globe that is facing away from the window is in the shadow. It's dark, like nighttime. If he spun the globe a different part of the globe would face the window and the light. A new part of the globe would have day.
Pages 19-20	How does this illustration show day and night? What details help you?	The part of the earth that is facing toward the sun has light. There, it is day. People are at the beach playing in the water and reading a book. The side of the earth that is facing away from the sun is dark. There, it is night. There are stars and the lights on the bus are on. Those are details that show it is night time.
Page 23 (Starts, "We spin and we circle…")	What language does the author use to describe the Earth's movement on this page? Which words have similar meanings?	The Earth spins, circles, rotates, and revolves. Spin and rotate have similar meanings. So do circle and revolve. These words are important because they explain why we see the pattern of day and

	Why are these words important for understanding the pattern of day and night?	night. We have day and night because the earth rotates, or spins. If we didn't know these words, it would be difficult to describe the way the earth moves and why we have day and night.

WHAT MAKES DAY AND NIGHT – READING 1, QUESTION SEQUENCE 1, DAILY TASK 3

TEXT
Text: *What Makes Day and Night* **Question Sequence:** First Read (*For this read, students will read pages 6-19.)* **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
500L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. Ideas are presented clearly and explicitly (i.e., "The Earth is our planet. It is round…it is spinning."). The illustrations and graphics enhance the reader's comprehension of the text. However, multiple graphics use side-by-side panel illustrations to show how different objects look as time passes (i.e., how the sun appears in the sky at different points during the day). These graphics require interpreting.	The language features of this text are slightly complex. The language is literal, straightforward, and easily understood. The text is composed of mainly simple sentences. There are few Tier II words (i.e., motion, noontime).
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is slightly complex. The purpose is clear, narrowly-focused, and easily understood. The reader will understand how Earth's rotation creates day and night for different parts of the world during a 24-hour period.	The knowledge demands of the text are moderately complex. Readers will need to understand that there are 24 hours in a day. They will also need to know that Earth turns. There is a reference to the Apollo 17 spacecraft and to the North and South Poles, which some students may be unfamiliar with.

LESSON OBJECTIVE(S) FOR THIS READING

Students will build on the understanding that the Earth spins, or rotates, and this movement causes the pattern of day and night.

To achieve this understanding, students will:

- identify key words and details in the text that describe the Earth's movement; and
- use text features to explain how the Earth's rotation creates the pattern of day and night.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- motion (explicit)
- speed (embedded)
- photograph (embedded)
- shadow (embedded)
- North Pole and South Pole (implicit)
- sunrise (embedded)
- sunset (embedded)
- noontime (embedded)
- midnight (embedded)

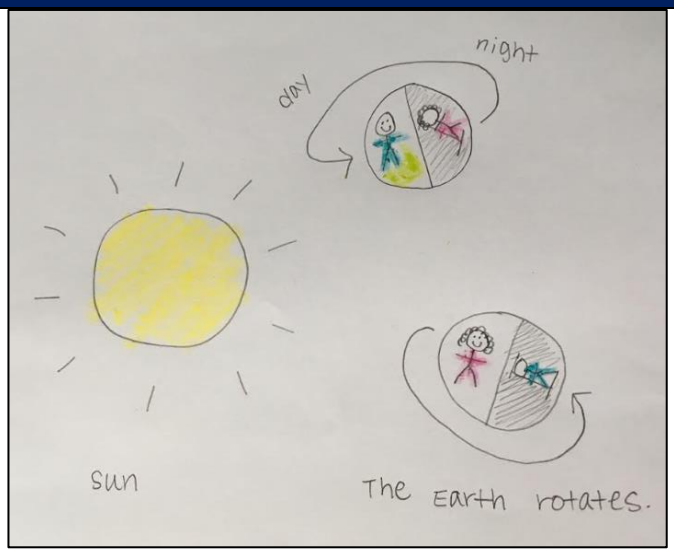
The following words are reinforced during this reading.

- spin

DAILY TASK

Look at the drawing you made after reading *On Earth*. Based on your new learning from the book *What Makes Day and Night*, revise your drawing. Add more illustrations, details, labels, and/or captions that help explain the pattern of day and night. Then, describe your drawing to a partner. As you talk, be sure to use words from the texts, like "motion" and "rotate".

Teacher's Note: Students will add on to this task after the second read of What Makes Day and Night *by writing a paragraph that explains their picture.*

POSSIBLE STUDENT RESPONSE
 **Oral explanation**: This picture shows night and day. The girl with the pink shirt is awake during daytime. Where she is the Earth is facing toward the sun. That's why she has day. The boy with the blue shirt is in bed. He is asleep during nighttime. Where he is the Earth is facing away from the sun. That part of the Earth doesn't get sunlight so it is dark. This picture shows what happens when Earth rotates. Because the Earth rotates, the girl in the pink dress is on the part of the Earth that's facing away from the sun. Where she is, it's night time. And the boy in the blue shirt who was sleeping is now on the part of the Earth that is facing the sun. For him, it's daytime and he is playing outside. Both the girl and the boy experienced both day and night because the Earth is always spinning, or rotating. Day and night are a pattern because they always happen in the same order. It's day, then it's night, then it's day again, and then it's night again.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 8	How does the author describe the Earth? Think back to when we read the book *On Earth*. What is another word we've used for spinning?	The Earth is round like a ball and it is spinning. We've used the word rotates. Rotates means to spin.
Page 10	On this page, the author uses some more words to describe Earth. What are those words and what do they mean?	The author says that the Earth is always turning and that it spins smoothly, always at the same speed. That means that it never speeds up or slows down when it's spinning.

	Why don't we feel Earth spinning?	We don't feel Earth moving because Earth spins smoothly. It always spins at the same speed and never stops turning.
Page 14	How long does it take the Earth to spin around once? What happens when one half of the Earth is covered in light? Using what you know from *On Earth* and from this text, how are day and night created?  *(This is an opportunity for a collaborative talk structure.)*	Earth spins around one time every twenty-four hours. The half of the Earth covered in light is having day, while the other half is dark and covered in Earth's shadow and having night. Day and night happen because the Earth rotates every twenty-four hours. As the Earth spins, it moves through light and darkness causing day and night.
Page 18-19	The previous page says, "the Earth makes one complete turn." Using the text and illustrations on pages 18 and 19, explain what people on Earth experience during that one complete turn?  *Teacher's Note: For the illustrations on these pages, make sure students understand that they are looking down on the Earth from the north pole.* Look again at the four pictures. What if people started at C? Would they experience the same pattern as people at A? Why or why not?	People on Earth experience sunrise, noontime (daytime), sunset, and midnight (night). They move slowly from light to dark – from day to night – because the Earth spins, or rotates, slowly. They would experience the same pattern of day and night as people at A, but in a different order. At C, those people would have sunset. Then in the second picture they would be at D and it would be night. Then in the third picture they would be at A and have sunrise. In the fourth picture they would have B and it would be day.
After reading	I think that day and night are a pattern. Do you agree? Why or why not? *Teacher's Note: If students are unfamiliar with the word pattern, or need the term to be reinforced, the teacher may want to explicitly teach the meaning of the word "pattern" here before asking this question.*	I agree. Day and night are a pattern because they always repeat in the same way. It's day, then it's night, then it's day again, and then it's night again. When it's day, you can predict that night will come next.

WHAT MAKES DAY AND NIGHT – READING 2, QUESTION SEQUENCE 2, DAILY TASK 4

TEXT
Text: *What Makes Day and Night* **Question Sequence:** Second Read (*For this read, students will read pages 20-29*.) **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
500L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. Ideas are presented clearly and explicitly (i.e., "The Earth is our planet. It is round…it is spinning."). The illustrations and graphics enhance the reader's comprehension of the text. However, multiple graphics use side-by-side panel illustrations to show how different objects look as time passes (i.e., how the sun appears in the sky at different points during the day). These graphics require interpreting.	The language features of this text are slightly complex. The language is literal, straightforward, and easily understood. The text is composed of mainly simple sentences. There are few Tier II words (i.e., motion, noontime).
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is slightly complex. The purpose is clear, narrowly-focused, and easily understood. The reader will understand how Earth's rotation creates day and night for different parts of the world during a 24-hour period.	The knowledge demands of the text are moderately complex. Readers will need to understand that there are 24 hours in a day. They will also need to know that Earth turns. There is a reference to the Apollo 17 spacecraft and to the North and South Poles, which some students may be unfamiliar with.

LESSON OBJECTIVE(S) FOR THIS READING

Students will build on the understanding that the Earth spins, or rotates, and this movement causes the pattern of day and night.

To achieve this understanding, students will:

- use words and graphics in the text to follow a procedure for conducting a simple experiment;
- compare how day and night are different on the Earth and the moon; and
- synthesize information from multiple sources (different pages, across texts) to explain how the Earth's rotation creates the pattern of day and night.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- experiment (explicit)

The following words are reinforced during this reading.

- sunrise, noontime, sunset
- spin

DAILY TASK

Teacher's Note: This daily task builds on the drawing task students completed after reading On Earth *and the first read of* What Makes Day and Night.

Part A:
Write a paragraph that explains your picture from the previous task. Your paragraph should explain what causes the pattern of day and night.

Your writing should:

- introduce your topic;
- supply some facts that explain what causes the pattern of day and night;
- use specific vocabulary from the texts we've read; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE

Day and night are a pattern. That's because the Earth is round and it rotates around its axis. Part of the Earth is always facing toward the sun and the other part is facing away. People on the part that faces toward the sun have light and daytime. The people on the part of Earth that faces away from the sun have nighttime because it is dark. As Earth rotates, the part that is dark spins toward the sun. As it spins toward the sun nighttime becomes day.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Pages 22-23	What is the boy doing? What is happening in each of these pictures? *Teacher's Note: If possible, have students do the experiment themselves. Have them reread the directions, noticing key directional words like "left" and "in front", to complete the experiment.*  *(This is an opportunity for a collaborative talk structure.)*	The boy is doing an experiment. He is pretending to be the Earth and the lamp is like the sun. He is slowly turning around, or rotating, just like the Earth does. The light is shining on different parts of his body as he turns, just like the sun shines on different parts of the Earth as it spins. He is experiencing day and night.
Page 24	What is happening when you see the sunrise?	The part of Earth where you are is moving, or spinning, toward the sun. It will be daytime soon.
Page 27	What is happening when you see the sunset? This caption says, "As the earth turns, the sun seems to move across the sky". Why is that?	Part of Earth is turning away from the sun. The sun seems to move, but it isn't. Instead, the earth is spinning. As we spin we slowly turn toward the sun, so the sun appears our left. As we keep turning we face the sun and its right in front of us. As we spin some more the sun appears on our right.
Page 29	What are day and night like on the moon? Why are day and night different on the Earth and the moon?	Day and night are very long on the moon. It is night for two weeks and day for two weeks. Because the Earth and moon spin at different speeds. The moon spins very slowly, so it takes a long time for one part of the moon to turn toward the sun and then turn away. The Earth spins faster so each part of the Earth faces the sun and turns away from it every 24 hours.
Page 30	The author says, "That seems just about right for all of us on the planet earth." What is the author saying here? Do you agree? Why or why not?	The author is saying that 12 hours of sunlight and 12 hours of darkness is the right amount for people on earth. *Answers will vary*. I disagree! I want more daylight because I don't like going to bed.
After reading	Why does Earth have day and night?	Earth has day and night because the Earth is always turning, or rotating. Every twenty-four hours different parts of the Earth face toward the sun and then away from the sun.

	We said earlier that day and night are a pattern. Is it a pattern we can predict? Why or why not? 	Yes, we can predict day and night because the earth is always spinning. As long as the Earth keeps rotating we will always go from day to night and back to day.

SUNSHINE MAKES THE SEASONS – READING 1, QUESTION SEQUENCE 1, DAILY TASK 5

TEXT
Text: *Sunshine Makes the Seasons* **Question Sequence:** First Read (*Read pages 4-26*) **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD510L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The text is written in a narrative format with information about the seasons. The order is logical, from days to seasons, but switches a few times from concepts and illustrations of Earth and sun to hands-on activities. Sidebars and diagrams may be challenging for younger students. However, illustrations supplement the text in developing conceptual understanding.	The language features are moderately complex. There is some content-specific vocabulary crucial for reader comprehension (i.e., axis, poles, and tilt). There are also some Tier II vocabulary words that are important for understanding the text's main concepts (i.e., freeze, amount, length). Primarily simple sentence structure is used to describe abstract concepts.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The core concept of this text – that different amounts of sunshine at different points in the year, created by the Earth's tilt, causes the change in seasons – is fairly abstract. The text relies heavily on an experiment to explain this phenomenon.	The knowledge demands are moderately complex. Basic prior knowledge about the seasons and common weather patterns within those seasons will be necessary for comprehension.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that the change in seasons is created by the Earth's tilt, which causes different parts of the Earth to receive different amounts of sunlight.

To achieve this understanding, students will:

- retell key details from the text;
- use words and illustrations to describe the relationship between sunshine and the four seasons; and
- use writing and pictures to create a chart that organizes information about the seasons.

VOCABULARY WORDS

No new words will be introduced during this reading. However, the word "tilted" is an important word for this text that should be emphasized. A variation – tilts – was introduced during the reading of *On Earth*.

- tilted (explicit)

The following words are reinforced during this reading.

- rotates
- equator
- axis
- North Pole and South Pole

DAILY TASK

Part B:
Collaborative Task
Create a class chart with four quadrants. Label each quadrant with the four seasons. As you read, add information to the chart that explains what happens in each of the four seasons. Based on students' abilities and interests, invite students to add information to the chart in different ways, including writing words, writing phrases or sentences, or by drawing a picture.

Students will add to this chart as they read various texts about the seasons.

Spring	Summer
Winter	Fall

Independent Task
The author, Franklyn Branley, wants to know if you learned what he hoped you would after reading his book. He wants to know if you can explain why the seasons change. Write a paragraph for him to read that explains what you learned.

Your writing should:

- introduce your topic;
- supply some facts that explain why the seasons change;
- use specific vocabulary from today's text; and
- provide some sense of closure.

Teacher's Note: Students will revise this piece of writing after the third read of On Earth.

POSSIBLE STUDENT RESPONSE
Independent Task Seasons change because where you are on Earth gets different amounts of sunshine during different seasons. In summer, you tilt toward the sun and get more sunshine. That makes it warm. In winter, you tilt away from the sun and you don't get much sunlight. That makes it colder.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Script: "We're going to read some books about the seasons. As we read, we're going to think about what happens in each season and why. In particular, we're going to pay attention to the patterns that occur in each season year after year. We'll record this information in this chart."*	
Pages 4-5	The author says "Sunshine warms the earth." What does that mean?	It means that that sunshine keeps our Earth warm. Sunshine makes us feel warm. Without sunshine, the Earth would get cold and freeze.
Page 6	Using the information on this page and your own background knowledge, can you explain why we are warmer in summer than in winter?	The text says that the amount of sunshine makes the difference. I think that means that when there is more sunshine it is warmer. When there is less sunshine it is colder. We get more sunshine in summer, so that's why summer is warmer.

Page 8	What is another word for "goes around the sun"? Possible Probing Questions: What word did we talk about when we read On Earth that describes how the Earth moves around the sun?	Revolve/revolution
Page 9	What happens in winter? Why? Let's add this information to our chart. Which box should we write in? (Winter.) What words, sentences, or pictures could we add to our chart?	The days get shorter. We have less sunshine. That makes it colder. Possible responses: • The days get shorter in winter. • Less sunshine • Colder • A picture of a winter coat
Page 10	What happens in the other seasons of the year? Why? *(This is an opportunity for a collaborative talk structure.)* What information can we add to our chart?	Spring • Days get longer Summer • Days get even longer • The sun is shining even when I have to go to bed • It's warm Fall • Days get shorter • Days get cooler
Pages 12-26	*Teacher's Note: This section explains an experiment that helps students understand how the Earth's tilt causes changes in the amount of sunlight on different parts of the Earth. If time and resources are available, teachers and students are encouraged to read the text and conduct the experiment.* *Students will have another opportunity to conduct or repeat this experiment during the second read of this text.*	
Page 18	What does it mean that the orange (the Earth) "is lighted from pole to pole"?	The sunlight shines evenly on all parts of the orange. The top of the orange and the bottom of the orange both get the same amount of sunshine.

Page 19	Based on the information on this page, let's make some predictions. How do we need to change what we're doing with the orange to show how the Earth really moves? What do you think will happen when we tilt it?	We will have to tilt the orange so that axis is not pointing straight up and down. When we tilt the orange the amount of sunlight that shines on different parts of the orange will change. *Teacher's Note: Students may not predict this accurately – that is okay! Use students' predictions as evidence of students' current level of understanding of this concept.*
Page 21	What happens to this part of the Earth (the pin) when it tilts away from the sun (the light)? What might that change in sunlight cause?	It gets less sunshine. It will cause shorter days and colder weather. With less sunlight, it won't be as warm. It will be winter.
Page 23	What happened as the Earth (the orange) revolved around the sun (the light)? If this orange were really the Earth, what would be happening?	This part of the Earth (where the pin is) started getting more and more sunlight. This part of the Earth (the pin) would be getting more sunlight and it would be getting warmer. The seasons would be changing from winter to spring to summer.
Page 26	What did this experiment show us? 	It shows us that sunshine is what causes the seasons. The reason the amount of sunshine changes over the year is because the Earth is tilted toward or away from the sun.

ALTERNATIVE SHARED READING OPTIONS
For the first shared reading of *Sunshine Makes the Seasons*, these are alternative options: • The teacher reads aloud the experiment while students participate and observe the experiment. After conducting the experiment, students reread the experiment section (pages 12-26) using the shared reading instructional strategy.

ON EARTH – READING 3, QUESTION SEQUENCE 3, DAILY TASK 6

TEXT
Text: *On Earth* **Question Sequence:** Third Read **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD540L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is very complex. The text discusses a range of ideas, including Earth's rotation and revolution and how they impact our understanding of time (days, years). The connections between these ideas are not explicitly stated. The graphics in the text enhance the reader's understanding, i.e., illustrations that show the Earth revolving around the sun. But, because many of the key concepts in this text are implied, the illustrations are often necessary for comprehension. Other structural features, like sentences written at angles and sentences that extend across multiple pages, add to the text's structural complexity.	The language features of this text are very complex. The primary source of language complexity is this text's use of domain-specific vocabulary. The text's content vocabulary includes words like axis, universe, orbit, tilts, and equator. In addition, there is some complex descriptive and figurative language, such as "spinning like a merry-go-round" and "circles the sun in a great sweep".
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is very complex. The text describes how the Earth moves and how its movement creates patterns such as day and night and the changing seasons. It also discusses the relationship between Earth's movement and our understanding of time, such as days and years. The purpose of sharing information about Earth's movements is not explicit yet is fairly easy to infer with support from text features.	The knowledge demands of this text are very complex. It assumes that readers have some prior knowledge about the solar system. There is a mixture of recognizable ideas and challenging abstract concepts about Earth and the solar system. A glossary defines basic terms, such as equator, sphere, rotate, axis, revolve, orbit, pole(s), and gravity.

LESSON OBJECTIVE(S) FOR THIS READING

Students will build on the understanding that the change in seasons is created by the Earth's tilt and its revolution around the sun, which causes different parts of the Earth to receive different amounts of sunlight throughout the year.

To achieve this understanding, students will:

- identify key details from the text to describe the relationships between Earth's tilt, its revolution around the sun, and the changing seasons; and
- distinguish between information that is gained from illustrations and words.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- leans (explicit)

The following words are reinforced during this reading.

- rotate/rotation
- revolve/revolution
- axis
- orbit
- tilts
- hemisphere
- leans

DAILY TASK

Collaborative Task

Add to the chart you created during the first read of *Sunshine Makes the Seasons*. Use a different color marker to help students visually see that new information is being added from a different source.

As you read this text, add information to the chart that explains what happens in each of the four seasons. Based on students' abilities and interests, invite students to add information to the chart in different ways, including writing words, writing phrases or sentences, or by drawing a picture.

Spring	Summer
Winter	Fall

Independent Task

Reread your writing from the book *Sunshine Makes the Seasons*. Think about what details you could add to more clearly explain why the seasons change. In your revisions, be sure to discuss how the changing seasons are a pattern. Then, share your writing with a partner. Ask your partner for feedback on how you can strengthen your explanation. Based on your own self-reflection and feedback from your partner, revise your writing.

Your writing should:

- introduce your topic;
- supply some facts that explain why the seasons change;
- use vocabulary from the unit; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE

Student responses will vary based on revisions. Students' writing should address these key ideas:

- Seasons change as the amount of sunshine changes.
- The amount of sunshine on Earth changes because of Earth's tilt.
- As the Earth revolves around the sun, a certain point on Earth gradually moves from more sunshine to less sunshine.
- More sunshine corresponds to the summer season, and less sunshine to the winter season.
- Changing seasons are a predictable pattern. There are always four seasons, and they always occur in the same order. If we are experiencing a particular season (e.g., winter) we can predict which season will come next (e.g., spring).

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Pages 3-4 The Earth spins…	Reread the sentence on this page and look closely at the illustration. What important ideas about how the Earth moves are explained on this page? How are they explained? *Teacher's Note: This page provides an opportunity to review key ideas related to the Earth's movement, including its rotation around an axis, its revolution around the sun, and its tilt. Use this question as an informal assessment of what information students have already internalized.*  *(This is an opportunity for a collaborative talk structure.)*	There are labels on this page. There are labels for rotation, revolution, and axis. Rotation means to spin. The Earth spins on its axis, which is an imaginary line that goes through the center of the Earth from top to bottom. Revolution means to circle around something else, like the sun.
Page 12 While we spin…	The author states that "we're one year older" when we orbit around the sun one time. Explain why we're one year older after one revolution?	We are one year older because it takes Earth one year to move, or revolve, around the sun.
Pages 17-18 The Earth tilts…	The text says, "the Earth tilts on its axis." What does tilt mean? Based on the text and the illustration, why do we have different seasons? What happens when the northern hemisphere of the Earth leans, or tilts, toward the sun? *Teacher's Note: It may be helpful to explain that Tennessee is in the northern hemisphere. Be sure to read the text box that says "Seasons in the Northern Hemisphere." You may also want to prompt students to look at the illustration and notice how the Earth is always tilted the same way.*	Tilt means to lean. The Earth tilts on its axis and leans toward and away from the sun. When the northern hemisphere of Earth leans toward the sun, the Earth is warmer and has Spring and Summer.

	Let's think about the information on this page and add to our chart about the seasons. We're going to write on our chart in a different color marker to help show that these ideas are coming from a new text. What can we write? 	*Answers will vary.* • Summer – the northern hemisphere leans toward the sun; it gets warmer • Winter – the Earth tilts away from the sun
Pages 19-20 When the Earth's top side…	What happens when the northern hemisphere of the Earth leans away from the sun?	When the northern hemisphere leans away from the sun, Earth is cooler and has Autumn and Winter.
Pages 21-22 In winter…	What happens in winter? Using what we know about the Earth's tilt, why do you think this happens? What information from these pages can we add to our seasons chart?	In winter the days get shorter and the nights get longer. In winter there is less sunlight, so daytime feels shorter. Possible responses: • Winter – days get shorter and nights get longer; less sunlight • Spring – days get filled with sunlight
After Reading	I think the seasons are a pattern. Do you agree? Why or why not? Can we predict the seasons? Why or why not?	Yes, the seasons are a pattern because they occur in the same order. The Earth revolves around the sun the same way each year. And the Earth always stays tilted the same way. So the pattern of sunlight always stays the same. The northern hemisphere gets the most sunlight in summer, then less in fall, even less in winter, then more in spring, and back to summer when there is a lot of sunlight. Yes, the seasons always occur in the same order, so we can predict which season is coming next. *Teacher's Note: Students will have an opportunity to discuss this question again during later reads. Students may not yet have the conceptual understanding to explain why the seasons are a pattern. Teachers should observe students' responses here and use them as an informal assessment of students' current level of understanding.*

TEXT
Text: *The Reasons for Seasons* **Question Sequence:** First Read **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD620L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is slightly complex. It is organized by the order of the seasons. Vivid illustrations aid in the readers' conceptual understanding of the seasons, as explained by Earth's many relationships to the sun. Diagrams supplement the text in developing conceptual understanding.	The language features in this text are moderately complex. The text contains content-specific vocabulary (*equinox, solstice, migration, equator) that* is necessary for reader comprehension, as well as some Tier II vocabulary (*ancient, bloom*) and phrases like "growing season" and "country fairs". Primarily simple sentence structure is used to describe abstract concepts.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is moderately complex. The reason for the seasons – the Earth's tilt – is explicitly stated. However, the purpose itself is abstract. Understanding about the relationship between Earth's tilt, revolution around the sun, and the changing seasons is necessary for comprehension.	The knowledge demands for this text are moderately complex. The text portrays everyday experiences and describes life through the seasons in different parts of the world in common terms.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand important characteristics of each of the four seasons and how they differ from one another.

To achieve this understanding, students will:

- ask and answer questions about key details regarding the four seasons;
- compare and contrast important characteristics of each of the four seasons; and
- describe how patterns in seasons impact living things.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- equinox (implicit)
- solstice (explicit)
- midday (embedded)
- ancient (embedded)
- climate (explicit)
- hibernation (embedded)
- temperature (implicit)

The following words are reinforced during this reading.

- revolve
- north and south pole
- axis
- hemisphere
- equator

DAILY TASK

Collaborative Task:
Add to the chart that you've worked on during the past two reads. Use a different color marker to help students visually see that new information is being added from a different source.

As you read this text, add information to the chart that explains what happens in each of the four seasons. Based on students' abilities and interests, invite students to add information to the chart in different ways, including writing words, writing phrases or sentences, or by drawing a picture.

Spring	Summer
Winter	Fall

Independent Task:
Your family has a new neighbor that has moved here from the North Pole. At the North Pole, their seasons are a little different because of their location on Earth. They want to know what patterns they can expect to see in the four seasons. Write to tell them what patterns they will observe in each of the four seasons.

Your writing should:

- introduce your topic;
- supply some facts about what happens in each season and how the four seasons are different from one another;
- use vocabulary from this unit; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE

There are four seasons. Each season is different but there are patterns of daylight in each of them. In spring there starts to be more daylight and it is warmer. Summer is the hottest season with the most daylight. In summer the Earth is tilted the closest to the sun. Plants grow and animals have families. In fall there starts to be less daylight and it gets cooler. Some birds migrate to warmer places. Winter is the coldest month with the least sunlight. In winter the Earth it tilted the farthest away from the sun. It gets dark very early in winter. Some people like to stay inside.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Pages 6-10 Spring section	When does spring usually begin? What happens in this season? What is migration? How does it impact certain animals? How else some spring impact living things?	In the northern hemisphere, spring usually begins around March 21. Spring is the season when more sunshine causes cooler air to be replaced with warmer air. Crops grow, trees grow, and new leaves and flowers bloom. Migration is when some animals that have been away return. Some birds and whales migrate. Animals that slept all winter wake up. Trees grow new leaves and flowers bloom. Some crops are planted.
Pages 11-14 Summer section	When does summer usually begin? What happens in this season?  *(This is an opportunity for a collaborative talk structure.)* How does summer impact living things?	Summer usually begins about June 21 in the northern hemisphere. The sun is tilted more toward the sun than any other time of the year. It is usually the warmest season. Daylight is long and nights are shorter. Flowers and plants grow under the warm sun. Animals are having new families. People can do things outdoors, like going to the beach.
Pages 15-19 Autumn section	When does autumn usually begin? What happens in this season? What is the impact of autumn on different living things? 	Autumn begins about September 21 in the northern hemisphere. This is the season when it starts getting cooler in the air. The days grow shorter and the nights are longer. Some leaves turn to different colors and fall to the ground. Farmers gather crops. Children go back to school. Some animals migrate and prepare for cold weather.

Pages 20-26 Winter section	When does winter usually begin? What happens in this season? What is the impact of winter on different living things? 	The first day of winter usually December 21 in the northern hemisphere. This is the time of year when the northern hemisphere is tilted farthest from the sun. It is the coldest season of the year. Daylight is short and nights are long. Leaves are gone from trees. There aren't as many birds. Some animals hibernate, or sleep all winter. People often stay indoors.
After Reading	What other information can we add to the chart based on our own experiences of the seasons? How are the four seasons different from one another? Which seasons are similar and why? What patterns can we observe in the seasons? 	*Answers will vary*. The summer in Tennessee is very humid. There are storms in the spring and summer. The seasons are different because they get different amounts of sunshine and warmth. Summer gets the most sunshine and winter gets the least. Spring and summer are similar because the amount of sunshine increases. Fall and winter are similar because sunshine and warmth decrease. There are patterns of sunlight in the seasons. There is more sunlight in spring and summer and less sunlight in fall and winter. Then there is more sunlight again as spring happens again. There is also a pattern in temperature. It is warmer in some seasons, like spring and summer, and colder in other seasons, like fall and winter. The pattern is warm, cold, warm, cold.

THE REASONS FOR SEASONS – READING 2, QUESTION SEQUENCE 2, DAILY TASK 8

TEXT
Text: *The Reasons for Seasons* **Question Sequence:** Second Read (*Read pages 1-5 only to allow time for the second read of* Sunshine Makes the *Seasons and Daily Task 8. The second read of* The Reasons for Seasons*, the second read of* Sunshine Makes the Seasons*, and Daily Task 8 are designed to be completed all on the same day.*) **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD620L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is slightly complex. It is organized by the order of the seasons. Vivid illustrations aid in the readers' conceptual understanding of the seasons, as explained by Earth's many relationships to the sun. Diagrams supplement the text in developing conceptual understanding.	The language features in this text are moderately complex. The text contains content-specific vocabulary (*equinox, solstice, migration, equator) that* is necessary for reader comprehension, as well as some Tier II vocabulary (*ancient, bloom*) and phrases like "growing season" and "country fairs". Primarily simple sentence structure is used to describe abstract concepts.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is moderately complex. The reason for the seasons – the Earth's tilt – is explicitly stated. However, the purpose itself is abstract. Understanding about the relationship between Earth's tilt, revolution around the sun, and the changing seasons is necessary for comprehension.	The knowledge demands for this text are moderately complex. The text portrays everyday experiences and describes life through the seasons in different parts of the world in common terms.

LESSON OBJECTIVE(S) FOR THIS READING
Students will reinforce their understanding that changes in the seasons are created by changing amounts of sunshine, which is caused by the Earth's tilt and revolution around the sun. To achieve this understanding, students will: • compare two texts on the same topic; • summarize key ideas related to the Earth's changing seasons; and • analyze how texts' words and illustrations are used to explain information related to the Earth's changing seasons.

VOCABULARY WORDS
No new words will be introduced during this reading. The following words are reinforced during this reading: • revolve • North Pole • South pole • axis • hemisphere • Equator
DAILY TASK
Teacher's Note: This task is a joint task with the second reading of Sunshine Makes the Seasons*. The task is intended to be completed after the reading of* Sunshine Makes the Seasons*.*

POSSIBLE STUDENT RESPONSE
Collaborative Task *Teacher's Note: See possible student response in* Sunshine makes the Seasons. **Independent Task** *Teacher's Note: See possible student response in* Sunshine makes the Seasons*.*

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Pages 2-3	*Teacher's Script: "Today we're going to reread two texts that explain why the seasons change* – The Reasons for Seasons *and* Sunshine Makes the Seasons*. Both books seek to explain the same concept. We're going to think about which text, in our opinion, does a better job of explaining the concept.*	

Pages 2-3	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information?  *(This is an opportunity for a collaborative talk structure.)*	The sun warms the Earth. It takes one year for the Earth to revolve around the sun. As Earth circles the sun, different parts of the Earth are closer to the sun than others.
Pages 4-5	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information? 	Earth is tilted on its axis. When the northern hemisphere is tipped toward the sun it is summer. Both the words and the illustrations give us information. The illustration shows the Earth's axis and tilt. The captions give information about the poles and equator.

SUNSHINE MAKES THE SEASONS – READING 2, QUESTION SEQUENCE 2, DAILY TASK 8

TEXT
Text: *Sunshine Makes the Seasons* **Question Sequence:** Second Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD510L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The text is written in a narrative format with information about the seasons. The order is logical, from days to seasons, but switches a few times from concepts and illustrations of Earth and sun to hands-on activities. Sidebars and diagrams may be challenging for younger students. However, illustrations supplement the text in developing conceptual understanding.	The language features are moderately complex**.** There is some content-specific vocabulary crucial for reader comprehension (i.e., axis, poles, and tilt). There are also some Tier II vocabulary words that are important for understanding the text's main concepts (i.e., freeze, amount, length). Primarily simple sentence structure is used to describe abstract concepts.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The core concept of this text – that different amounts of sunshine at different points in the year, created by the Earth's tilt, causes the change in seasons – is fairly abstract. The text relies heavily on an experiment to explain this phenomenon.	The knowledge demands are moderately complex. Basic prior knowledge about the seasons and common weather patterns within those seasons will be necessary for comprehension.

LESSON OBJECTIVE(S) FOR THIS READING

Students will reinforce their understanding that changes in the seasons are created by changing amounts of sunshine, which is caused by the Earth's tilt and revolution around the sun.

To achieve this understanding, students will:

- compare two texts on the same topic;
- summarize key ideas related to the Earth's changing seasons; and
- analyze how texts' words and illustrations are used to explain information related to the Earth's changing seasons.

VOCABULARY WORDS

No new words will be introduced during this reading.

The following words are reinforced during this reading.

- rotates
- Equator
- axis
- North Pole
- South Pole
- tilted

DAILY TASK

Collaborative Task: Create a t-chart to support students in comparing the two texts. Discuss the two questions at the top and fill in the chart below with evidence from each text.

Questions: How does the text use words and pictures to explain the changing seasons? Which text explains the causes of the changing seasons more clearly?	
The Reasons for the Seasons	***Sunshine Makes the Seasons***

Teacher's Note: This daily task is meant to be completed after the second read of both The Reasons for Seasons *and* Sunshine Makes the Seasons.

Independent Task:
Your librarian needs your help deciding which book to display on her shelf. After reading both texts, *The Reasons for the Seasons* by Gail Gibbons and *Sunshine Makes the Seasons* by Franklyn Branley, write an opinion piece that explains which author you think most clearly explains the causes of the changing seasons. In your writing, describe how the text uses words and pictures to explain certain ideas.

Be sure to include:

- your opinion;
- at least one reason for your opinion;
- at least one comparison between the two texts;
- vocabulary words from the texts; and
- a sense of closure.

POSSIBLE STUDENT RESPONSE

Collaborative Task

Questions: How does the text use words and pictures to explain the changing seasons? Which text explains the causes of the changing seasons more clearly?	
The Reasons for the Seasons	***Sunshine Makes the Seasons***
• On page 2, Gail Gibbons said that the Earth's tilt towards and away from the sun makes the seasons. The words were easy to understand, but the picture doesn't show this very well. • The picture on page 3 shows the Earth's rotation around the sun, but the picture does not show the tilt. Page 3 describes how different parts of the Earth can be closer to the sun than others. • Pages 4-5 show the Earth's tilt as it revolves around the sun. This helped me understand how different parts get different amounts of sunlight as the Earth revolves around the sun.	• On page 4 and 5, the illustrations show what would happen if there was so sunshine. It helps us as readers understand that the sun is what warms the Earth. • On page 6, the sentence "The amount of sunshine makes the difference" is clear and helps me understand that sunshine is what causes the changing seasons. The title of the book – Sunshine Makes the Seasons – also helps me think about how the amount of sunshine and warmth is the difference between the two seasons. • On page 8, it shows the sun and the Earth revolving around it. There are pictures of the four seasons too. These illustrations help show how the weather changes as the Earth revolves around the sun.

Independent Task
I think *Sunshine Makes the Seasons* did a better job of explaining why the seasons change because of the experiment and illustrations. The experiment in the book helped me understand how the Earth's tilt causes parts of the Earth to get more and less sunshine. And sunshine is what causes the seasons. The illustrations in *Reason for the Seasons* didn't always show the Earth's tilt. The words in *Sunshine Makes the Seasons* were easier to understand.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Note: Complete the shared reading of pages 4-11 and 19-26. If time and resources allow, add the experiment on pages 12-18. Due to the length of this text, reading could be completed across days (e.g., pages 4-11, the experiment section on pages 12-26).*	
Pages 4-5	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information?  *(This is an opportunity for a collaborative talk structure.)*	Sunshine keeps the Earth warm. The words say specifically that the "sunshine warms the Earth". The illustrations also show what would happen without sunlight – a dark sky with freezing cold weather.
Pages 6-7	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information? 	The amount of sunshine is the difference between seasons. The illustration shows that the sun shines in both summer and winter.
Pages 8-11	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information? 	The length of our days changes throughout the year. Days get longer in spring and summer. That means more sunshine. The days start getting shorter in fall. They are the shortest in winter. The text gives us this information. The illustrations show pictures of what winter and summer look like.
Pages 19-21	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information? 	The earth is tilted. The directions for the experiment say it and the pictures show it. When the northern half of the earth tilts away from the sun it is doesn't get much light. It is winter. Both the words and the illustration show this.

Pages 22-24	Let's stop and summarize the information that was shared in this section of pages. How did the author and/or illustrator explain this information? 	During summer, the northern half of the earth is in the light longer than it is in the dark. It is summer and warm. The words tell us this. The picture shows it too. The pictures in this part of the book only help me a little bit. It's hard to see how the light changes from spring to summer.
Pages 27-32	*Teacher's Note: These pages discuss how the seasons are different at the poles and equator. This information is not necessarily relevant to the concepts of this unit and, given the length of this text, have been purposefully left out. Teachers could choose to have students read these closing pages as an extension activity to learn more about the effect of sunshine on climate.*	

ON EARTH – READING 4, QUESTION SEQUENCE 4, DAILY TASK 9

TEXT
Text: *On Earth* **Question Sequence:** Fourth Read **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD540L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is very complex. The text discusses a range of ideas, including Earth's rotation and revolution and how they impact our understanding of time (days, years). The connections between these ideas are not explicitly stated. The graphics in the text enhance the reader's understanding, i.e., illustrations that show the Earth revolving around the sun. But, because many of the key concepts in this text are implied, the illustrations are often necessary for comprehension. Other structural features, like sentences written at angles and sentences that extend across multiple pages, add to the text's structural complexity.	The language features of this text are very complex. The primary source of language complexity is this text's use of domain-specific vocabulary. The text's content vocabulary includes words like axis, universe, orbit, tilts, and equator. In addition, there is some complex descriptive and figurative language, such as "spinning like a merry-go-round" and "circles the sun in a great sweep".
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is very complex. The text describes how the Earth moves and how its movement creates patterns such as day and night and the changing seasons. It also discusses the relationship between Earth's movement and our understanding of time, such as days and years. The purpose of sharing information about Earth's movements is not explicit yet is fairly easy to infer with support from text features.	The knowledge demands of this text are very complex. It assumes that students have some prior knowledge about the solar system. There is a mixture of recognizable ideas and challenging abstract concepts about Earth and the solar system. A glossary defines basic terms, such as equator, sphere, rotate, axis, revolve, orbit, pole(s), and gravity.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that patterns in day and night and the seasons are predictable. These patterns are caused by the Earth's movement.

To achieve this understanding, students will:

- summarize information from the text about the Earth's rotation and revolution; and
- use key details from the text to draw conclusions about predictable patterns related to the Earth's movement.

VOCABULARY WORDS

No new words will be introduced during this reading.

The following words are reinforced during this reading:

- rotate/rotation
- tilt
- orbit
- revolve/revolution
- axis
- equator
- hemisphere

DAILY TASK

Part 1:

Some leaders in your community are planning a summer science camp for kids. One of the topics that kids will learn about at camp is Earth and space science. The camp leaders want you to create a brochure that they can share with kids at camp that explains (1) observable patterns in the day and night sky and (2) the seasons that impact Earth. Use illustrations and descriptions to explain these observable patterns.

Your brochure should include:

- a front cover that illustrates and names the topic of the brochure;
- a section that illustrates and describes observable patterns from the day and night sky and explains why we observe those patterns; and
- a section that illustrates and describes the pattern in Earth's seasons and explains why changes in season occur.

Be sure to:

- use details from the texts we have read; and
- use vocabulary words from the word display in our unit.

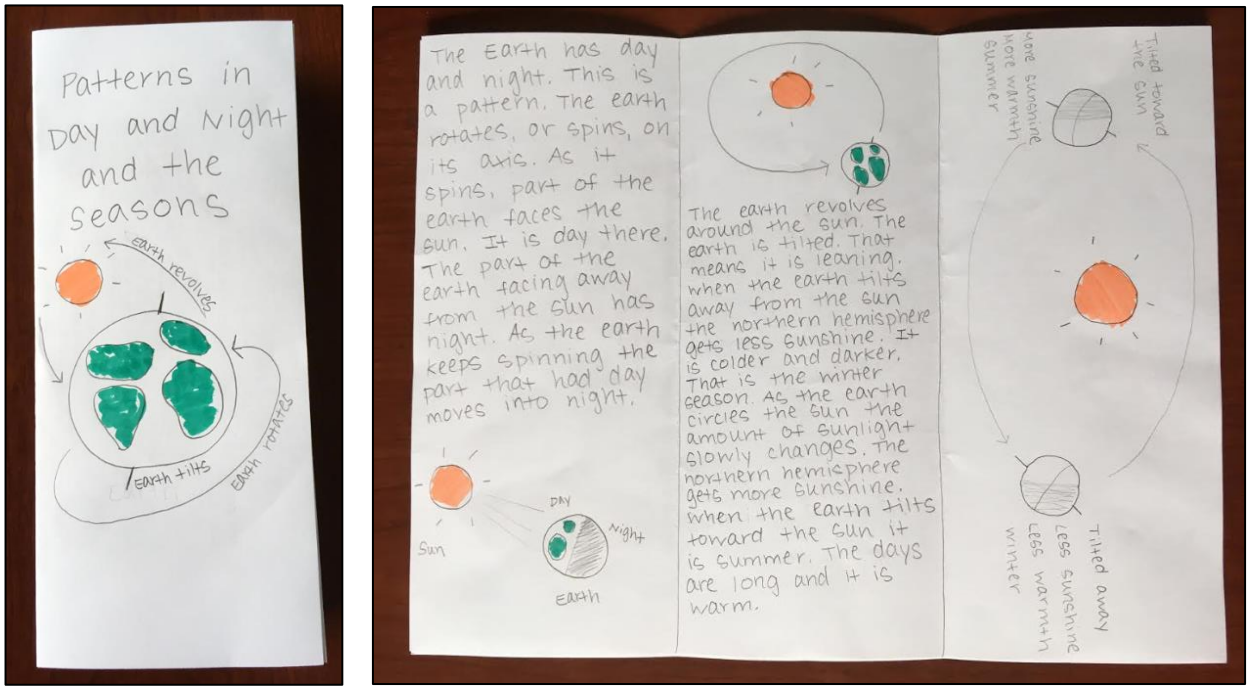
Part 2:

When you're almost finished with your brochure, practice presenting your information to a student

partner. Seek your partner's feedback on your writing.

Teacher's Note: This daily task is designed to mimic the end-of-unit task. This task is an opportunity for students to practice synthesizing key information from the unit so far. It is also an opportunity to practice with the medium of a brochure. The teacher may want to encourage students to look at or reread other texts, in addition to On Earth*, to inform their writing.*

POSSIBLE STUDENT RESPONSE



Teacher's Note: If students have difficulty with certain sections of this task, the teacher may want to consider rereading certain texts or parts of texts. For example, if students have difficulty explaining the patterns in Earth's seasons, the teacher may want to reread sections of The Reasons for Seasons *or having students reread parts of* Sunshine Makes the Seasons*. Students can also continue to explore these texts in small group reading or independent reading settings.*

PAGE/PART	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE

OF TEXT		
Before Reading	*Teacher's Note: The fourth read of* On Earth *marks the conclusion of the part of the unit on patterns in day and night and the seasons. Teachers may wish to review these key concepts by conducting repeated reads of other texts. For example, a teacher may want to review patterns in day and night by having students reread the shared reading text* What Makes Day and Night. *Teacher' Script: "We've spent time learning about Earth's movements and how they affect what we see in the day and night sky and the changing seasons.* *We're going to read the text* On Earth *one final time. We know that this text tells us about the Earth's movements and how those movements affect what we see in the day and night sky and the changing seasons. As we read today, we're going to be thinking about how Earth's movements create patterns that we can observe. We're going to think about what we are able to predict and observe given what we know about the Earth's movements."*	
Pages 9-10	What pattern does this page show? What causes this pattern? Why is it a pattern that we can predict?  *(This is an opportunity for a collaborative talk structure.)*	These pages talk about day and night. Day and night are caused by the Earth's rotation on its axis. Every day, or every 24 hours, the Earth makes one complete spin. As the Earth spins toward the sun we have day. As the Earth spins away from the sun it gets dark and we have night. This pattern is predictable because it happens every day (every 24 hours).
Pages 13-14	What pattern does this page (and the previous one) talk about?	These pages talk about the Earth's revolution. The Earth makes a circle around the sun every year. It takes 12 months for the Earth to make a revolution around the sun.
Pages 15-16	How does this page help us understand that Earth's revolution is a pattern?	It says that years go by, day by day. The illustration shows a boy with a birthday cake. The revolution of the Earth around the sun is predictable because it happens every year, like birthdays.

Pages 21-22	What pattern does this section of pages show? What causes this pattern? Why is it a pattern that we can predict? 	These pages explain the changing seasons. When the Earth tilts toward the sun it gets more light and is warmer. That causes summer. In winter the Earth tilts away from the sun and gets less sunlight. That makes the days shorter and colder. The seasons are a pattern because the sunlight changes and the amount of warmth changes the same every year. In spring and summer we get more light and it gets warmer. Then in fall and winter we get less light and it gets colder. The pattern of more light then less light, and warm then cold, is predictable.

STARRY MESSENGER– READING 1, QUESTION SEQUENCE 1, DAILY TASK 10

TEXT
Text: *Starry Messenger* **Question Sequence:** First Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
830L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is very complex. The organization of the text is generally sequential and chronological, though some events happened long ago and, in some cases, quite a long time passed in between notable events. The structural elements that are most complex in this text are the graphics. The illustrations are large and beautiful, but are also very intricate. In some cases, it is difficult to locate information in the graphics because of how detailed they are. Notes are written in the margins in addition to the story's text. These notes include descriptions of events and quotes from Galileo's own writing. These notes can be difficult to read because they are small, written in cursive, and sometimes are upside side or written in the form of a shape. While the content of these notes enhances students' understanding, they may be difficult for some readers to access.	The language features in this text are moderately complex. Language is largely explicit and easy to understand, though some figurative language is used (i.e., "born with stars in his eyes"). Some Tier II vocabulary words may be unfamiliar to readers, such as *observations, publish*, *amused*, and *dedicated*. There are few examples of domain-specific vocabulary. The term "telescope" is introduced.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is moderately complex. The text is a biography of Galileo. It uses Galileo's story to explain some information about the solar system. The purpose is not stated explicitly but is easy to infer.	The knowledge demands of this text are very complex. The text assumes some background knowledge about space; particularly that the sun is at the center of the solar system. Because Galileo lived long ago, some references to past historical

	times, such as royal patrons and the authority of the Catholic church, may be difficult for readers to understand.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand how people learn about the solar system and that people's ideas about the solar system have changed over time.

To achieve this understanding, students will:

- use information from the text to make a timeline with labels that describe how our understanding of space has changed over time; and
- use graphics and text features to understand key ideas and details in the text.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- universe (implicit)
- tradition (implicit)
- observe/observations (explicit)
- publish (embedded)
- inspired (embedded)

The following words are reinforced during this reading:

- revolve

DAILY TASK

Collaborative Task

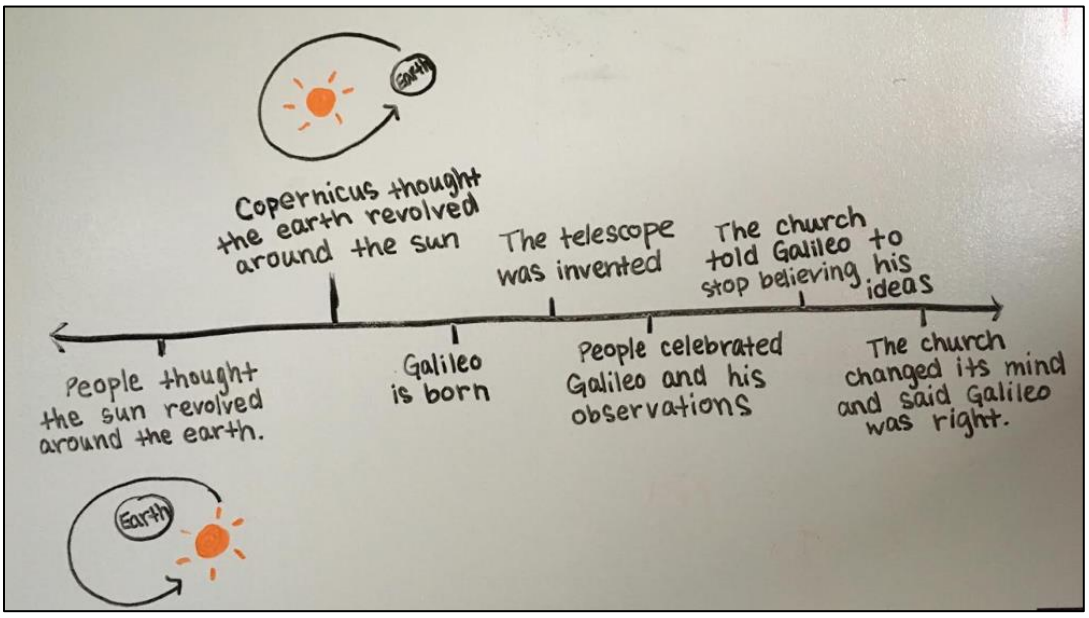
During reading, the class will collaboratively construct a timeline. Teachers and students can make the timeline together on a chalkboard or whiteboard. Teachers or students can write events in chalk or marker as they go. Or, the teacher can pre-write events on sticky notes and then have students place the sticky notes in order.

Independent Task

You have been asked to write an informational piece that explains how people's beliefs about the Earth and sun have changed over time for the local planetarium to display at their new exhibit.

Your writing should:

- introduce your topic;
- supply some facts about the topic;
- use specific vocabulary and names from the text; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE
Collaborative Task    **Independent Task** People's ideas about space have changed over time. Long ago people thought the Earth was in the middle of the universe. Copernicus thought the sun was at the center, but he couldn't prove it. Then Galileo came and used his observations to show people the Earth revolved around the sun. Some people didn't like Galileo's ideas and kept believing the Earth was at the center. But now everyone agrees the Earth revolves around the sun.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Cover	*Teacher's Script: "We're going to make a timeline. A timeline is a way of showing the order of important events in history. For this book, we're going to make a timeline that helps explain how people's ideas about Earth and space have changed over time."*	
Page 1	*Teacher's Note: After reading the main text, read the caption that says "The Earth stands still". Read the captions "The Ptolemaic system" and point out the small picture of Ptolemy (pronounced TOL-uh-mee)* I'm thinking about how I can use the	*Answers will vary.* • People thought that the Earth was at the center of the universe. • People thought the sun, moon, and other planets revolved around the Earth.

	information that's in the text and graphics to help me write something for our timeline. What do you think we could write?	• People thought the Earth stood still. • Ptolemy was a person who thought the Earth was in the middle of the sun and other planets.
Page 2	The author tells us here that one man thought about the earth and sun differently? What did this man think? Does the author tell us who this man is? Let's look more closely at these text features and see if we can figure out his name. Teacher's Note: *Read/reread the various text features on the page. Guide students to identify Copernicus' name*. *Teacher's Script: "Let's add Copernicus and his idea to our timeline."*	He thought the Earth and other planets revolved around the sun. He thought the Earth moves. No. Copernicus.
Page 6	The author includes a lot of information about Galileo on this page. That makes me think that Galileo is an important person. What event, then, can I add to our timeline?	Galileo is born.
Page 12 Then one day…	Here is another place where the illustrations and other text features help us make meaning of the text. Does the text say what instrument was used? *Teacher's Script: "Let's see if we can figure out what this instrument is."* *Teacher's Note: Read the caption on page 12, the caption under the illustration on page 13, and prompt students to notice details in the illustration. If possible, project the page on a document camera so students can see the details in the illustration.* What instrument was used to see things from far, far away? What clues are in the words and graphics that help you figure that out? Talk with a partner and be prepared to explain how you figured out what the instrument was.  *(This is an opportunity for a*	No. I think it's a telescope because the pictures in the corners and on the right side of the page look like a telescope. The caption said the instrument was a spyglass. The illustrations showed the spyglass. I think spyglass is another name for a telescope. I see that the caption says "News of the

	collaborative talk structure.) What event can we add to our timeline now?	telescope reaches Galileo". *Answers will vary.* • The telescope was invented. • Galileo made his own telescope.
Page 14 Night after night…	*Teacher's Script: "This page reminds me of something else. It reminds me of another person who made observations, but who couldn't publish his ideas."* *Teacher's Note: Go back to page 2 and reread the page*. Who do you think the author means by "someone else"? Why?	"Someone else" means Galileo. Copernicus couldn't prove that the Earth revolved around the sun. Copernicus had to wait for someone else to prove it. That person was Galileo. Galileo had a telescope. The telescope allowed him to prove his ideas.
Page 21 Soon Galileo was famous…	What does the information on this page and the last page tell us about how people were thinking about earth and space during this time? So then, what could we add to our timeline?	The text says that more and more people celebrated the stars and they celebrated Galileo and his discoveries. I think that means the people believed Galileo's ideas. They believed the Earth revolves around the sun. *Answers will vary.* • More and more people started believing Galileo and his ideas. • People celebrated Galileo and the stars. • More people believed the Earth revolves around the sun.
Page 23 He had gone…	*Teacher's Note: Be sure to read the caption on page 23.* What's happening now? How are people's ideas changing? Let's add that to our timeline.	People in the church told Galileo to stop believing his ideas.

	Teacher Note: Some of the information on pages 23-30 may be sensitive or difficult to understand for children. Teachers could consider asking students to infer how Galileo's imprisonment could have affected the public's perception of him and his ideas.	
Page 30 Finally…	What does the text tell us about how people think about Galileo now? What can we write as the final event of our timeline? The author doesn't tell us why the church changed its mind about Galileo, but we can make an inference. What do you think could have caused the church to say that Galileo was right?	The church admitted Galileo was right. *Answers will vary*. Maybe more people invented more tools, like the telescope, and they made more observations that showed the earth revolved around the sun. Maybe so many people were able to prove that Galileo was right that the church had to believe him.

STARRY MESSENGER– READING 2, QUESTION SEQUENCE 2, DAILY TASK 11

TEXT
Text: *Starry Messenger* **Question Sequence:** Second Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
830L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is very complex. The organization of the text is generally sequential and chronological, though some events happened long ago and, in some cases, quite a long time passed in between notable events. The structural elements that are most complex in this text are the graphics. The illustrations are large and beautiful, but are also very intricate. In some cases, it is difficult to locate information in the graphics because of how detailed they are. Notes are written in the margins in addition to the story's text. These notes include descriptions of events and quotes from Galileo's own writing. These notes can be difficult to read because they are small, written in cursive, and sometimes are upside side or written in the form of a shape. While the content of these notes enhances students' understanding, they may be difficult for some readers to access.	The language features in this text are moderately complex. Language is largely explicit and easy to understand, though some figurative language is used (i.e., "born with stars in his eyes"). Some Tier II vocabulary words may be unfamiliar to readers, such as *observations, publish*, *amused*, and *dedicated*. There are few examples of domain-specific vocabulary. The term "telescope" is introduced.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is moderately complex. The text is a biography of Galileo. It uses Galileo's story to explain some information about the solar system. The purpose is not stated explicitly but is easy to infer.	The knowledge demands of this text are very complex. The text assumes some background knowledge about space, particularly that the sun is at the center of the solar system. Because Galileo lived long ago, some references to past historical

	times, such as royal patrons and the authority of the Catholic church, may be difficult for readers to understand.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that scientists and scientific tools have helped us learn more accurate information about space.

To achieve this understanding, students will:

- explain how Galileo's observations contributed to people's understanding of science;
- explain why the telescope enabled scientists, like Galileo, to make new observations; and
- use graphics and text features to understand key ideas and details in the text.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- telescope (explicit)

The following words are reinforced during this reading:

- revolve
- observe/observations
- experiments

DAILY TASK

Your grandfather loves learning about historical people. He doesn't know much about Galileo and has asked you to write a biography of Galileo so that he can learn about him. In your biography, describe some of the observations Galileo made and why the telescope was important to Galileo's life.

Your writing should:

- introduce your topic;
- supply some facts about the topic; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE

Galileo was an important person who studied space. He used a telescope. The telescope let him see things that were very far away. Galileo used the telescope to look at the moon. He observed that the moon is rough. He also used a telescope to observe spots on the sun. People know a lot about space today because of Galileo's observations.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 2	Think about the two men who we read about on these pages. Tell your partner who they are and how they were different.  *(This is an opportunity for a collaborative talk structure.)*	Ptolemy thought the sun was in the middle of the universe and everything revolved around it. Everybody else thought the same thing. But Copernicus thought the Earth revolved around the sun. He couldn't prove it though.
Page 6 (Starts "In the city of Pisa…")	What does the author mean when he says that the little boy "was born with stars in his eyes"? How does the illustration help us understand this phrase? *Possible Probing Question: Galileo viewed the stars and other objects in space. If the author said, "he was born with stars in his eyes," what do you think that means about Galileo's interests even as a young boy?*	The boy was born with stars in his eyes means that he is interested in stars. All the babies have a picture on their blankets. The pictures are of different jobs, like cooking or making music. Galileo's blanket has stars, so his job will be about looking at the stars. So being born with stars in his eyes means that he wants to look at stars and when he grows up he will do something with stars, like be an astronomer.
Page 8 (Starts "Galileo thrived…")	When the author talks about Galileo here, he says that "stars were always on his mind." What does that mean? How does the illustration help us figure out the meaning of that phrase?	"Stars were always on his mind" means that he was always thinking about stars, even when other kids were doing other things. The picture shows Galileo drawing stars in the dirt while the other kids around him are playing games.
Page 10 (Starts "He studied…")	*Teacher's Note: After reading the main text, read aloud the following note in the left margin: "Did experiments proving Aristotle wrong. Discovered the law of Falling Objects by showing that two balls of unequal weight fall at the same speed." Point to the illustration that shows this experiment.* What have we learned about Galileo from this page? How did we learn this information?	Galileo studied math. The words tell us this. Galileo also did experiments. The words tell us this and we also see his experiments in the illustrations. Galileo discovered the Law of Falling Objects. This information was in the caption, and one of the pictures shows him dropping two balls from a tall tower.

	Before moving on, let's reread a sentence on this page. That sentence is, "Galileo is our star, the people would say." Does that mean the same thing as the way we've used the word "star" so far in this text?	No, star here talks about Galileo. The people thought that he was really smart and good at what he did. He was famous and talented, like a rock star.
Page 14-16 (Starts "Night after night…")	*Teacher's Note: After reading the main text, read the following captions on page 15: "It is a beautiful thing and most gratifying to the sight to behold the body of the moon…The moon is not robed in a smooth and polished surface but is in fact rough and uneven…covered everywhere, just like the Earth's surface…with huge prominences, deep valleys, and chasms."* *After reading the main text, read all four captions on page 16.* The author says that Galileo was amazed by what he could see with his telescope. What were some of these observations? How did Galileo help people begin to change what they know about the Earth and universe?	The moon is rough not smooth. There are valleys on the moon. There are sun spots. Galileo used his telescope to make observations about the Earth. He published his findings in the *Starry Messenger*.
	Teacher's Note: Pages 23-30 include potentially sensitive information about Galileo's relationship to the church. Ask questions related to Galileo's life based on the information in these pages only as appropriate.	
Page 30	In what ways did Galileo's telescope and observations help change what people understood about the Earth and universe?	Galileo helped people understand that the sun was at the center of the solar system. He also helped people know that there were many characteristics of planets, stars, and moons that could be observed with a telescope. His work inspired others to continue studying the sky.

LOOKING THROUGH A TELESCOPE – READING 1, QUESTION SEQUENCE 1, DAILY TASK 12

TEXT
Text: *Looking Through a Telescope* **Question Sequence:** First Read **Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
440L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. Connections between some ideas or events are implicit or subtle (for example, the use of the poem "Hey Diddle, Diddle"). Text features and graphics are simple and enhance the reader's understanding of content.	The language features of this text are moderately complex. The language is largely explicit and easy to understand. The vocabulary is mostly familiar and conversational. There are also opportunities for readers to determine the meanings of unknown words (i.e., crater, Maria). The sentence structure of the text is primarily simple. There are few compound sentences.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of the text is to explain how people can use telescopes to observe different objects in space. While not explicitly stated, this purpose is easy to infer.	The knowledge demands of this text are moderately complex. The text relies on common practical knowledge and some discipline-specific content knowledge. The text includes a mixture of simple and abstract ideas (i.e., stars are balls of gas). The text assumes some intertextual knowledge when it references the "Hey, Diddle Diddle" poem.

LESSON OBJECTIVE(S) FOR THIS READING
Students will understand that scientists use telescopes to observe characteristics of objects in space. To achieve this understanding, students will: • retell key details from the text to describe the purpose of a telescope; and • use information from text features to draw conclusions about how telescopes are used.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- scientists (explicit)
- planet (embedded)
- crater (embedded)

The following words are reinforced during this reading:

- telescope

DAILY TASK

Pretend that you are a junior scientist. Explain to a fellow junior scientist in your class what a telescope is used for and why it's a helpful scientific tool.

Your writing should:

- introduce your topic;
- describe some of the ways you use your telescope;
- include some vocabulary from the text; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE

I'm a scientist and I use my telescope to make observations. I use my telescope to look at the moon. The telescope shows me craters and maria on the moon. I also use my telescope to look at planets. Through the telescope the planets look close. Without the telescope the planets would only look like dots of light. One day I hope to use the Hubble Telescope so I can learn more about how stars form.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 4	*Teacher's Note: Students who are unfamiliar with the nursery rhyme "Hey, Diddle Diddle" may need support in understanding why the author is talking about cows jumping over the moon.*	
Page 9	Why are we not able to "jump over the moon?"  *(This is an opportunity for a collaborative talk structure.)*	The moon is too big and far away. Even though it does not look bigger than a basketball in the night sky, it is too far away to "jump over the moon."
Page 12	What is a telescope?	A telescope is a tool that lets us see things that are far away, like the moon.

	How do you use a telescope? What features in this text give us information about how to use a telescope? *Teacher's Note: Here the teacher can invite students to share what personal experiences they have with telescopes, i.e., if they have seen or used one before, what they saw, etc.*	You have to look through one end of the telescope. The photo on page 13 shows a boy looking through one end of the telescope. The other end is pointing up toward the sky. There is a similar picture on the cover that shows a kid looking through a telescope up to the stars. The title of the book is "Looking Through a Telescope", so that tells us that you have to look through a telescope to see things in the sky.
Page 14	What are some characteristics of the moon you can observe with a telescope? 	A telescope shows that the moon is big and round. It lets us see that the moon has craters or round holes. These holes are not very deep.
Page 19	What planet is this? How do we know? *Teacher's Note*: *Some students may know Saturn from their background knowledge. Help these students recognize that they can confirm their prior knowledge by using text evidence*.	This planet is Saturn. There is a caption under the picture that says "Saturn". I know it's Saturn because I know Saturn has rings.
Pages 18-21	What objects can you observe in the night sky with a telescope? Why are telescopes important for observing these objects?	A telescope can view planets, like Saturn. It can also let us see stars that are yellow, blue, and white. Without a telescope, objects like planets and stars only look like small dots in the night sky.
After reading pages 22 – 27	How have telescopes changed since the time of Galileo? 	Scientists now have large telescopes that are as big as buildings that can see things that are really far away. Scientists have also put a big telescope into space that can see things that telescopes on Earth can't. It's called the Hubble Telescope.

ALTERNATIVE SHARED READING OPTIONS
Teachers can choose to break apart this shared read into two readings. During the first read, students can read pages 3-17. For the second read, students can read pages 18-31.

TEXT
Text: *The Big Dipper* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD460L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is moderately complex. Ideas are organized in a mostly sequential way, however there is some going back and forth between past and present (There are multiple references to how people thought about the Big Dipper and North Star "long ago".) There are few text features in this story, though when they are used, such as picture labels, they are easy to understand and support the text. The graphics/illustrations are mostly supplementary and enhance understanding. For example, when the author explains that the Big Dipper looks different in different seasons, the characters on the page are dressed in different ways corresponding to the seasons, which may help readers understand the passage of time. Some graphics, however, are essential to understanding key information. On some pages, the author writes only that "the Big Dipper looks like this" and readers must reference and understand the illustrations to comprehend how the Big Dipper's position looks different during different seasons.	The language features of this text are slightly complex. Language is straightforward and literal and vocabulary is mostly familiar and conversational. The term "Dipper", which is essential to the text, may be unfamiliar, but the author defines it, with the support of an illustration, on page 12. The names of the stars in the Big Dipper will be unfamiliar to most readers and difficult to pronounce, such as Alkaid, Phecda, and Dubhe. But, these names are not relevant to the main idea of the text. The author shares the Latin constellation names of Ursa Major and Ursa Minor, which are also likely to be unfamiliar words, though the text explains that "ursa" means bear, that "major" means big, and that "minor" means little.

MEANING/PURPOSE	KNOWLEDGE DEMANDS
The purpose of this text is moderately complex. The author does not explicitly state the main idea or purpose of the text, though readers should be able to infer that the Big Dipper is a group of stars, that it looks different at different points in the year, and that people both past and present look for the Big Dipper and North Star.	The knowledge demands of this text are moderately complex. Most readers will have background knowledge on stars. However, the concept of constellations is important to fully comprehend this text and students without prior knowledge of constellations may have difficulty understanding why people past and present would have interest in finding shapes in the night sky. The text also assumes that readers have some prior knowledge related to navigation. Specifically, it assumes that readers have some understanding of cardinal directions and know what a compass is. Without this knowledge, readers may have difficulty comprehending why the North Star is important.

LEESSON OBJECTIVE(S) FOR THIS READING

Students will understand that the Big Dipper is an important group of stars that we can see in the night sky.

To achieve this understanding, students will:

- identify key ideas and details about the Big Dipper; and
- synthesize information on different pages to understand how and why people look at stars.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- dipper (explicit – use page 12 of the text for support)
- compass (implicit)
- North (in the context of the North Star; explicit)
- sailors (implicit)
- imagine (embedded)

DAILY TASK
You did such an amazing job writing for the local planetarium that they have asked you to do it again for another exhibit they will have about stars. Answer the following question for them to display at their new "Star Bright" exhibit. What is the Big Dipper? Include at least three facts from the text that help explain what the Big Dipper is. Your writing should: • introduce your topic; • supply at least three facts about the topic; • use vocabulary from the text; and • provide some sense of closure.

POSSIBLE STUDENT RESPONSE
The Big Dipper is a group of stars. You can see the Big Dipper in the night sky in the summer and the winter. There are seven stars in the Big Dipper. Some people long ago thought the Big Dipper looked like a bear and they called it Ursa Major. I will look at the stars tonight and try to find the Big Dipper!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
	Teacher's Note: Given the complexity of portions of this text, adjustments to shared reading methods might be made for certain sections of this text that present new or challenging information to students (e.g., choral reading with teacher's voice as the lead, echo reading, etc.). As needed, sections for these adjustments might include: pages 12-14, 18-22, 24, and 29.	
Page 10	*Teacher's Script: "Let's stop and think about what we've learned about stars so far. Take a few seconds to think of one fact you've learned about stars, and then tell it to your partner."*  *(This is an opportunity for a collaborative talk structure.)*	*Answers will vary*. • Sometimes stars are bright. • Stars look close, but you can't touch them because they're far away. • Stars look different in summer and in winter. • Some stars can be seen in both summer and winter.
Page 13	On these pages, the author uses the name Big Dipper. But, the author doesn't tell us exactly what the Big Dipper is. Using the words and illustrations from the text and what you already know about stars, what do	The Big Dipper is a group of stars that looks like a water dipper. A water dipper has a handle and a bowl.

	you think the Big Dipper is? *Teacher's Note: Depending on students' responses, ask, "What is a Dipper?" Reference page 12 as needed to help students understand what a water dipper is.*	
Page 21	What are some facts about the North Star? The author says that the north star is 'a very important star'. Why is that? 	*Answers will vary.* • It's also called Polaris. • The stars in the bowl of the Big Dipper point to the North Star. • Sailors use the North Star to help them find their way. The North Star is important because sailors used it to help them find their way. If they wanted to go north, they would go toward the north star. If they wanted to south, they would go away from the north star.
Page 24	Why did people long ago call the Big Dipper Ursa Major?	Because they thought the Big Dipper looked like a bear. Ursa means bear and major means big.
After Reading	Why have people in the past looked at the stars? Think of a summary for this text. Then, tell your summary to your partner. 	People, like sailors, used the stars to find their way, like the North Star. Other people looked at the stars and found shapes, like the big bear. The Big Dipper is a group of seven stars that look like a water dipper. The Big Dipper looks different in different seasons. The Big Dipper points to the Little Dipper. The Little Dipper has an important star called Polaris that people long ago used to navigate. Some people long ago thought the Big Dipper looked like a bear.

THE BIG DIPPER- READING 2, QUESTION SEQUENCE 2, DAILY TASK 14

TEXT
Text: *The Big Dipper* **Question Sequence:** Second Read (*Read pages 8-23 only*) **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD460L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is moderately complex. Ideas are organized in a mostly sequential way, however there is some going back and forth between past and present (There are multiple references to how people thought about the Big Dipper and North Star "long ago".) There are few text features in this story, though when they are used, such as picture labels, they are easy to understand and support the text. The graphics/illustrations are mostly supplementary and enhance understanding. For example, when the author explains that the Big Dipper looks different in different seasons, the characters on the page are dressed in different ways corresponding to the seasons, which may help children understand the passage of time. Some graphics, however, are essential to understanding key information. On some pages, the author writes only that "the Big Dipper looks like this" and readers must reference and understand the illustrations to comprehend how the Big Dipper's position looks different during different seasons.	The language features of this text are slightly complex. Language is straightforward and literal and vocabulary is mostly familiar and conversational. The term "Dipper", which is essential to the text, may be unfamiliar, but the author defines it, with the support of an illustration, on page 12. The names of the stars in the Big Dipper will be unfamiliar to most readers and difficult to pronounce, such as Alkaid, Phecda, and Dubhe. But, these names are not relevant to the main idea of the text. The author shares the Latin constellation names of Ursa Major and Ursa Minor, which are also likely to be unfamiliar words, though the text explains that "ursa" means bear, that "major" means big, and that "minor" means little.

MEANING/PURPOSE	KNOWLEDGE DEMANDS
The purpose of this text is moderately complex. The author does not explicitly state the main idea or purpose of the text, though readers should be able to infer that the Big Dipper is a group of stars, that it looks different at different points in the year, and that people both past and present look for the Big Dipper and North Star for different purposes (i.e., for navigation, as constellations).	The knowledge demands of this text are moderately complex. Most readers will have background knowledge on stars. However, the concept of constellations is important to fully comprehend this text and students without prior knowledge of constellations may have difficulty understanding why people past and present would have interest in finding shapes in groups of stars. The text also assumes that readers have some prior knowledge related to navigation. Specifically, it assumes that readers have some understanding of cardinal directions and know what a compass is. Without this knowledge, readers may have difficulty comprehending why the North Star is important.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that the position of the Big Dipper appears to change during different seasons.

To achieve this understanding, students will:

- use graphics/illustrations to understand how the position of the Big Dipper changes through the seasons;
- distinguish between information that is gained from text and from graphics; and
- synthesize information across texts to make a comparison between patterns in the Big Dipper's location and other observable patterns on Earth and in space.

VOCABULARY WORDS

No new words will be introduced during this reading.

The following words will be reinforced during this reading.

- dipper
- compass
- north
- imagine

DAILY TASK
Part 1: Fold a piece of paper in half twice. The folds should create four boxes. Label the first three boxes Summer, Winter, and Fall. In each of these boxes, draw a picture of what the Big Dipper looks like during that season. Show your pictures to a partner. Explain to your partner how the position of the Big Dipper is different in each picture. Be sure to use information from the text's words and illustrations to help you draw the stars and their positions accurately. **Part 2:** In the fourth box, write a response to the following prompt: Does the Big Dipper have an observable pattern? If so, how is this pattern similar to other patterns we've talked about in this unit? Your writing should: • introduce your topic; • supply at least two facts about the topic; • use vocabulary from the text; and • provide some sense of closure.

POSSIBLE STUDENT RESPONSE
Oral response to Part 1 (answers may vary): "In summer the handle and bowl of the Big Dipper are pointing down. In winter they are pointing up. In fall the Big Dipper is very low in the sky. You may not even be able to see it because it's so low." **Written response to Part 2**: The Big Dipper's position in the sky makes a pattern. We can predict how the Big Dipper will look if we know what season it is. This pattern is like sunshine and the seasons. If we know what season it is, we can predict how much sunshine there will be. We can observe many patterns in the sky.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Pages 8-9	What does this illustration show? Would the stars shown here always look this way? How do we know?	It shows what the stars look like in the summer. No, the author says that, "They are not always the same." In this sentence, "they" means the stars.
Pages 15-17	Describe to your partner what the Big Dipper looks like. Possible Probing Questions: What is the same? What is different? How did we learn this information?  *(This is an opportunity for a collaborative*	The Big Dipper always has seven stars and it always has the same shape. But, it points in different directions in different seasons. It points down in summer and up in winter. In fall it is low in the sky and you may only be able to see part of it.

	talk structure.)	Some information is written in words and some is just shown in the pictures. For summer and winter, the information is shared in the illustrations. For fall, it is explained by both the text and the illustrations.
Page 19	What season do you think it is in this illustration? Why?	*Answers will vary*. It's not winter because the Big Dipper is not pointing up. It's kind of pointing down but not all the way. The girl in the picture is wearing shorts and a t-shirt, so I know it's not cold. I think it's between summer and fall.
Page 23	What about in this illustration – what season do you think it is and why?	It's probably summer because the Big Dipper is pointing down.

ALTERNATIVE SHARED READING OPTIONS

- Students can read the entire text to help reinforce knowledge of the stars and develop reading fluency. Students can do this all in one sitting or spread over two days. Students can read pages 4-17 in one sitting and 18-21 in another.
- The teacher can break apart the shared read of pages 8-23 into two readings. Students can read pages 8-17 in one sitting and pages 18-23 in another.

TEXT
Text: *Coyote Places the Stars* **Question Sequence:** First Read **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
840L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is slightly complex. The text is clear and chronological. The illustrations provided in the text directly support and assist in interpreting the text.	The language features are moderately complex. The language is largely explicit and easily understood. The vocabulary is rich with Tier II words (i.e., discover, launched, yelped, arranged). There is a wide variety of sentence structure including simple, compound, and complex sentences.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning of this text is very complex. There are multiple levels of meaning present in the text. The text is a legend that explains how the constellations came to be and also portrays coyote as clever and crafty. These ideas are developed across the whole story.	The knowledge demands of the text are very complex. The cultural elements of the text are uncommon to a majority of students. The concept of fictional legends that explain how certain things came to be could be an unfamiliar genre. Some cultural references, like “many moons ago”, may also be unfamiliar. The ideas presented in the text require readers to differentiate between fiction and nonfiction in relation to content.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that groups of stars appear to make patterns of shapes in the night sky.

To achieve this understanding, students will:

- retell the story of *Coyote Places the Stars*, including key details, and demonstrate understanding that Coyote placed the stars to be remembered; and
- explain differences between texts that tell stories and texts that give information about stars.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- starry heavens (embedded)
- arranged (embedded)
- star pictures (embedded)
- gaze (explicit)

Teacher's Note: Teachers can support the use of vivid verbs throughout the text through additional implicit and embedded instruction (i.e., discover, launched, bounded, scampered, crept, crawled, splashed, soared). Also, the word "constellations" does not appear in any of the unit's texts on stars. Teachers can choose to introduce this word to describe "star pictures" like Ursa Major, the Big Dipper, and the shapes in this legend that coyote makes.

DAILY TASK

Coyote Places the Stars is a legend. Some of the information in it is not true. But, some of it is. Using information from this text and other texts in our unit, explain which ideas in this story are true and which are not.

In your writing, be sure to:

- name your topic;
- supply some facts from the texts we've read;
- include vocabulary words from the unit; and
- provide a sense of closure.

POSSIBLE STUDENT RESPONSE

Coyote's plan to move the stars wouldn't be successful in reality. We learned in *Looking Through a Telescope* that the moon is far away, so Coyote wouldn't actually be able to climb a ladder made of arrows to reach the moon. The Big Dipper told us that the stars are also far away, so Coyote wouldn't be able to shoot them with arrows. But people do look at the stars and see shapes. Ursa Major is a group of stars that looks like a bear, just like Coyote made a picture of a bear with the stars for his friend Bear.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before reading	*Teacher's Script: "Legends are old stories that were widely believed, but cannot be proven true. There are many Native American legends about objects in the sky."* Since this text is a legend, what might we need to think about as we read?	 We might need to think about what from the text can be proven true and what parts cannot be proven true.
Page 2	The author said, "coyote lay awake many nights gazing at the starry heavens." What does that mean? Possible Probing Questions: What could the "starry heaven" be? If the starry heavens are the night sky, what does it mean for coyote to gaze at them/what does gaze mean?" What does it tell us about coyote that he lays awake at night gazing at the starry heavens?	Coyote was looking up at the night sky that was covered with stars. Coyote is very interested in the stars.
Pages 7-8 First he decided…	The text says "the stars were arranged in the shape of a coyote." What does "arranged" mean? What was Coyote creating by arranging the stars?	Arranged means to move around in a certain order or pattern. Coyote was creating pictures in the sky.
Page 9	Why did Coyote howl at the moon?	He wanted all of the animals to see what he did with the stars.
Page 15-16 Finally coyote appeared…	Why did the animals whoof and whiff, screech and squawk? Why did Coyote create the pictures in the sky?  *(This is an opportunity for a collaborative talk structure.)*	The animals were cheering for Coyote and celebrating the pictures he made in the sky. Coyote wanted all who see the pictures in the sky to remember him and all the other animals of the canyon.
Page 21	The last page of the text says that you could gaze at the star pictures to this day. Why are you able to see star pictures, or patterns, in the night sky?	We are able to see pictures in the night sky because the stars have predictable patterns that can be seen each night.
After reading	What did Coyote do in this text? Why did he do that? 	Coyote created pictures in the sky so he and other animals from the canyon would be remembered.

	What do we know to be true from this text? What are some of the pieces from the text that cannot be proven true, or are fictional? Why are those part fictional? Use your knowledge from our unit to explain your thinking.	We know that stars can appear to be arranged in groups that make shapes. We also know some people see groups of stars and think they look like animals. We know that it is impossible to climb a ladder made of arrows and reach the moon. We also know that Coyote didn't actually create the shapes in the sky by arranging the stars with his arrows. We know those parts are fictional because the moon is very far away from Earth. A ladder made of arrows wouldn't reach the moon.

THE MOON BOOK – READING 1, QUESTION SEQUENCE 1, DAILY TASK 16

TEXT
Text: *The Moon Book* **Question Sequence:** First Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
740L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. Parts of the text are organized sequentially while others are not (i.e., a section on what we currently know about the moon is followed by what people in ancient times thought about it). The illustrations are essential to understanding the content.	The language features are very complex. There are many content-specific words, such as reflect, satellite, astronomers, waxing, and waning. These words are essential to understanding the text. There is also a variety of sentence structures.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is slightly complex. The purpose is to share comprehensive facts about the moon, such as what it looks like, its phases, and patterns on Earth caused by the moon (i.e., tides).	The knowledge demands are moderately complex. Some ideas are complex, like that the moon formed 4.5 billion years ago when debris collected together. There are some references to how people thought about the moon in ancient times, which may be difficult to understand without knowledge of the belief systems of past civilizations.

LESSON OBJECTIVE(S) FOR THIS READING
Students will understand that the moon is an important body in space that moves and reflects light from the sun. To achieve this understanding, students will: • retell key details from the text that describe the relationship between the moon and the Earth; and • use illustrations and text features to support their understanding of the characteristics of the moon.

Teacher's Note: This text is a comprehensive overview of the moon, its properties, how it is studied, and observable patterns related to the moon. The parts of the text included in this reading are those that directly relate to the lesson objectives and lead students to the unit's enduring understandings.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- astronomers (embedded)
- satellite (implicit)
- reflects (explicit)

The following words are reinforced during this reading:

- planet
- crater
- orbit
- rotation

DAILY TASK

Collaborative Task: As students read the text, record facts about the moon on a poster. This poster can serve as an anchor chart to support students' understanding of the key concepts of the unit related to the moon.

Facts About the Moon

Independent Task

Your reading buddies in fourth grade are reading a book about an astronaut who traveled to the moon. They want to know more about the moon, so their teacher has asked you to help. Write an informational paragraph about the moon. Include at least three facts about the moon in your written response. Be sure to explain how astronomers learned this information about the moon. Use vocabulary and our class anchor chart to help you.

In your writing, be sure to:

- name your topic;
- supply some facts from the texts we've read;
- include vocabulary words (i.e., orbits, reflects); and

- provide a sense of closure.

POSSIBLE STUDENT RESPONSE

Collaborative Task

Facts About the Moon

- The moon reflects light from the sun.
- The moon is smaller than the earth.
- The moon has craters, mountains, and valleys.
- The moon is Earth's only natural satellite.
- It takes the moon about a month to travel around the Earth.

Independent Task

There are many interesting facts about the moon. The moon looks very big and bright in the night sky. The moon looks like this because it is closer to Earth than any other star or planet. The moon does not make its own light. It reflects the light of the sun. The moon orbits the Earth. Astronomers learn about the moon by observing it through telescopes and by sending spacecrafts and astronauts to the moon. There is so much more we can learn about the moon!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
	Teacher's Note: Read pages 1-9 and 20-27; the section on the phases of the moon will be the focus of the second read.	
Page 2 Our moon is the brightest…	What is the difference between a star and a planet? The sun is a _____. Earth is a _____. How many moons does Earth have?	A star gives off light and heat. A planet revolves around the sun. The sun is a star. Earth is a planet. Earth has one moon.
Page 4 The moon makes no light…	The word "reflect" means "to bounce off" and refers to light, heat, or energy. What does the moon reflect? On the previous page the author describes the moon as "big and bright." Why does the moon look big and bright? Is the moon bigger or smaller than the Earth? How do you know?	The moon reflects the sun's light. It looks big because it is close to the Earth. It looks bright because it reflects the sun's light. Smaller; it looks smaller in the picture; 2,000 is a smaller number than 8,000; the text says it is one-fourth the size of Earth.

Page 5 Most astronomers …	What is an orbit? What is another example of one object orbiting another that we have learned about in this unit?	An orbit is a path of one thing around another. In the book *On Earth* we learned that the Earth orbits the sun.
Page 8 The moon is Earth's only…	How long does it take the moon to travel around the Earth?	It takes the moon about a month to travel around the Earth.
Page 9	What are some facts we've learned about the moon in this text? *Teacher's Note: Record facts on the chart. Invite students to contribute words, sentences, or pictures.*	*Answers will vary.* • The moon makes no light. • The moon reflects the sun's light. • The moon is smaller than the Earth. • The moon is made up of rock and dust. • There is no air on the moon. • The moon orbits the Earth.
Page 20 Some night-sky gazers…	How do people observe the moon? Look at the word "observatory". What do you think an observatory is?	With binoculars and telescopes. I notice the word part "observe" in observatory. Maybe an observatory is a place where people use large telescopes to make observations about space.
Page 21 A close-up view of the moon's surface…	The author describes a close-up view of the moon in the text and in a picture. But, the text says the moon is really far away, so how are we able to get this close-up view? How were craters formed on the moon? How does knowing how they are formed help you understand what craters look like?	Scientists must have used a telescope. We learned in *Looking Through a Telescope* that scientists use telescopes to look at the moon. Craters were formed when meteors pounded the moon. Since it says "pounded," craters must be holes or dents in the moon's surface.
Pages 22-25 There were five more…	How have astronomers learned information about the moon? Why do you think people wanted to send spacecrafts and astronauts to the moon?	Spacecrafts have been sent to the moon to take pictures of it. Astronauts have gone to the moon, walked on it, and done experiments on it. *Answers will vary*. People wanted to learn more about the moon. Maybe there were things that people wanted to know but couldn't learn from telescopes. Maybe they had to get closer to the moon to learn certain information.

Page 26	The author writes, "We are still learning more about our closest neighbor, the moon." What else do you want to know about the moon? What kind of scientific tools would you need to find it out?	*Answers will vary*. Example: I want to know if the moon is hot or cold. An astronaut would have to travel to the moon to know that. You couldn't use a telescope to find out the temperature.
After Reading	Let's think about the information we did learn about the moon. What facts can we add to our chart? (*Flip back through the text for students to look at illustration and reread as needed.)*	The moon has craters, mountains, and valleys. Spacecrafts have taken photos of the moon. Astronauts have traveled to the moon.

PAPA, PLEASE GET THE MOON FOR ME– READING 1, QUESTION SEQUENCE 1, DAILY TASK 17

TEXT
Text: *Papa, Please Get the Moon for Me* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD450L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization is clear, chronological, and easy to predict. The illustrations are often essential to understanding the story. The fold-out pages make the organization of information and illustrations less traditional.	The language features are moderately complex. Some Tier II vocabulary is used (i.e.., reappear, sliver). Dialogue changes perspective and adds some complexity that could be challenging for some readers.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning of this story is moderately complex. There are two levels of meaning: 1) the willingness of Monica's father to get her whatever she wants, including climbing a ladder to get a moon, and 2) the changing shape of the moon across the story, which goes unexplained.	The knowledge demands are moderately complex. The reader needs to understand the difference in realistic stories and fantasy stories. The reader needs to understand that you can't actually "play with the moon" and that someone cannot go fetch the moon from the sky. Finally, the reader must understand that the moon appears to change over time.

LESSON OBJECTIVE(S) FOR THIS READING
Students will understand that the moons shape appears to change over time. To achieve this understanding, students will: • retell the story using key details to describe how the moon's shape changes; • distinguish between information about the moon that is realistic and fictional; and • make a prediction about the cause of the moon's changing shape.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- near (embedded)
- disappeared (implicit)
- sliver (implicit)
- reappear (implicit)

DAILY TASK

Collaborative Task: While reading, add details to the chart about what is happening to the moon. Organize them by details that are true and those that are fictional. Students will use this same chart to record details about another text, *How the Moon Regained her Shape*.

Details about the moon that are true	Details about the moon that are fictional

Independent Task

What happened to the moon in *Papa, Please Get the Moon for Me*? Why do you think that happened? Use what you learned about the moon in *The Moon Book* to inform your prediction.

Your writing should:

- introduce your topic;
- explain at least three events that occurred in the story;
- include at least one prediction about the cause of the moon's changing shape; and
- provide some sense of closure.

POSSIBLE STUDENT RESPONSE

Collaborative Task

Details about the moon that are true	Details about the moon that are fictional
• You can't touch the moon • You can see a face in the moon • The moon is in the sky	• Papa climbed a ladder to the moon • The moon talks • You can't play with the moon

Independent Task
In the book *Papa, Please Get the Moon for Me* the moon changed shape. The moon was big when Papa first talked to it. The moon said that every night it gets a little smaller. When it was smaller Papa got it. Monica played with the moon. But it kept getting smaller and then disappeared. But then Monica saw it in the sky again and it got bigger and bigger. I think the moon gets bigger and smaller because it moves. Maybe when it moves slowly it looks bigger and when it moves fast it looks smaller.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 2	What will happen when Monica tries to reach for the moon?	She won't be able to touch it. The moon is too far away to touch.
Page 8 He carried the very long ladder…	Let's make a prediction. What is Papa going to do? Why?	He is going to put his ladder on the tall mountain and try to climb to the moon. He's doing this because Monica asked him to get the moon for her.
Page 14	Why didn't Papa take the moon? How do we know? Let's stop and think about what's happened so far. Retell the story to your partner. After you both retell, talk about which details from the story are realistic and which are fictional.  *(This is an opportunity for a collaborative talk structure.)*	Papa thinks the moon is too big to play with. We know this because Papa talked to the moon and said "you are much too big." Monica wanted to touch the moon. She couldn't, so she asked her Papa to get it for her. Papa got a ladder and climbed to the moon. The moon was too big, but the moon told Papa it would get smaller. What's real is that Monica couldn't touch the moon. The illustrations of the moon looked real. Some people think they can see a face in the moon, and this moon has a face. What's fictional is that Papa couldn't really climb to the moon on a ladder because the moon is too far away. Also, the moon can't talk.
Page 20	What does the word "disappeared" mean? How do we know?	Disappeared means that something went away. The story says that the moon got smaller and smaller and then it disappeared. The pictures show the moon getting smaller and the last picture shows Monica not playing with anything. The moon is gone. It disappeared.

Page 22	What does the word “reappear” mean? How do we know?	Reappear means to come back. The moon was gone, but then Monica saw it in the sky again. It came back.
Page 27	Let’s summarize this story. Retell the story to your partner. After you both retell, talk about which details from the story are realistic and which are fictional. 	Monica wanted to play with the moon so her Papa went to get it for her. But it was too big. Then the moon got smaller and smaller and Papa went back to get it. Monica played with the small moon. But it kept getting smaller and then disappeared. One night Monica say the moon reappear in the sky. That means the moon came back. Then the moon got bigger. It's not possible to play with the moon. It’s too far away. But we do see the moon in the sky, so the end of the book seemed real. (*Some students may have enough background information to also know that the moon appears to change shape in real life*.)
After Reading	We said in our summaries that the moon changed shape. How have you noticed the moon change shape in real life? Let’s make a prediction. Why do you think the moon changes shape in real life? What information from *The Moon Book* could help us make our predictions?	*Answers will vary*. Sometimes the moon is really big. I know that’s called a full moon. But sometimes you can only see part of it. *Answers will vary*. *The Moon Book* said that the moon orbits the earth. Maybe there are times when it’s closer and farther away in its orbit and that makes its shape look different.

THE MOON BOOK – READING 2, QUESTION SEQUENCE 2, DAILY TASK 18

TEXT
Text: *The Moon Book* **Question Sequence:** Second Read (Pages 4 and 8-13) **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
740L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. Parts of the text are organized sequentially while others are not (i.e., a section on what we currently know about the moon is followed by what people in ancient times thought about it). The illustrations are essential to understanding the content.	The language features are very complex. There are many content-specific words that students will need to learn, such as reflect, satellite, astronomers, waxing, and waning. These words are essential to understanding the text. There is also a variety of sentence structures.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of this text is slightly complex. The purpose is to share comprehensive facts about the moon, such as what it looks like, its phases, and patterns on Earth caused by the moon (i.e., tides).	The knowledge demands are moderately complex. Some ideas are complex, like that the moon formed 4.5 billion years ago when debris collected together. There are some references to how people thought about the moon in ancient times, which may be difficult to understand without knowledge of the belief systems of past civilizations.

LESSON OBJECTIVE(S) FOR THIS READING
Students will understand that the moon's orbit around Earth causes patterns in the amount of light we are able to see reflected on the moon. This pattern is called the phases of the moon. To achieve this understanding, students will: • retell details from the text to name and describe each phase of the moon; • use illustrations and text features to support their understanding of the different phases of the moon; and • use manipulatives to collaboratively create a reference chart.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- phases (explicit)
- crescent (implicit)
- waxing (explicit)
- quarter (embedded)
- gibbous (explicit)
- waning (explicit)

The following words are reinforced during this reading:

- satellite
- rotation
- sliver

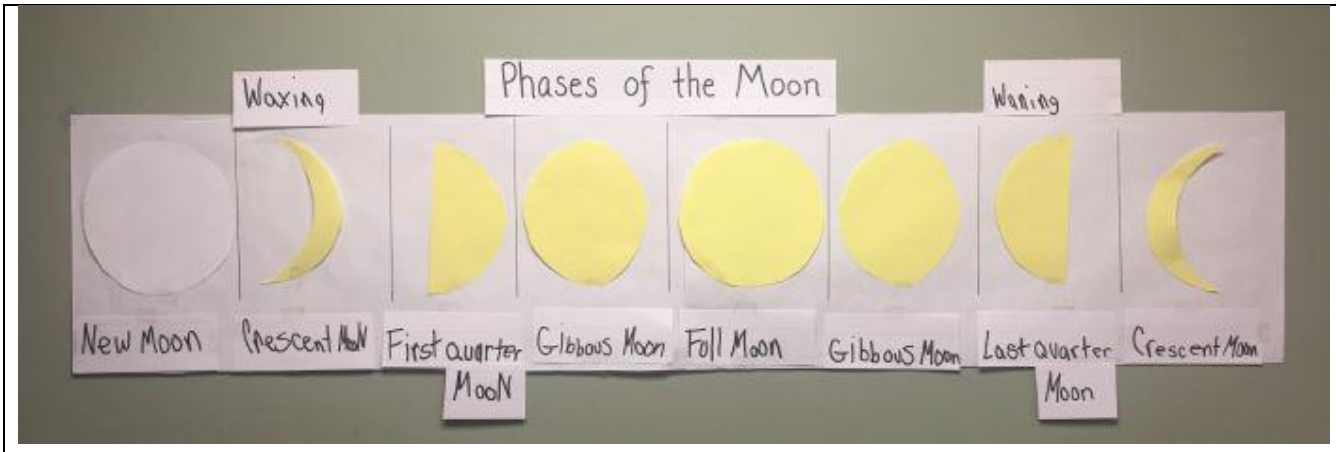
DAILY TASK

Collaborative Task: We've just read *The Moon Book* by Gail Gibbons. Together as a class, we are going to create a (anchor-sized) chart titled **"Phases of the Moon"** that illustrates and describes the eight phases of the moon. You will work collaboratively with a group of 2 or 3 students to illustrate your assigned phase of the moon. On the sentence strip, correctly label the moon phase. As your group adds your moon phase to the chart, share with the class the part of the moon we are able to see during the phase and why we see that part

Teacher's Note: Provide a yellow paper circle and a sentence strip to each partner/trio group. After reading the text, put up a chart titled "Phases of the Moon." There should be 8 sections marked off across the chart. Student groups will be assigned a phase. They will use the sentence strip to write the phase (referring to the text as needed) and cut and fold the paper plate to represent the moon. The teacher can give an extra sentence strip to two groups, and students can write "Waxing" and "Waning" to add to the chart. (See example chart below).

Alternatives:

- *Give each group a set of moon phases and labels. (The teacher would need to pre-cut the different shapes for each phase.) Then in groups, students work together to put the phases in order and place each label by the corresponding phase. Once complete and checked by the teacher, students can tape or glue their phase cutouts and labels onto a poster. Each group will make their own poster.*
- *If the phases of the moon are a new concept for children, it may be helpful to draw or construct one chart together as a class with the teacher providing a higher level of guidance and prompting. Then, students can work in groups to create their own charts.*



Independent Writing Task: Tomorrow we will be writing a letter to Monica from *Papa, Please Get the Moon for Me.* Before we do, we need to make sure we understand the phases of the moon. Explain why the shape of the moon appears to change.

In your writing, be sure to:

- name your topic;
- supply some facts from the text;
- include vocabulary words (phases, reflects, light); and
- provide a sense of closure.

POSSIBLE STUDENT RESPONSE
The moon looks like it changes shape, but it doesn't. The moon doesn't shine light on its own. It reflects light from the sun. We see different shapes of light on the moon because the Earth orbits the sun. Sometimes we see a lot of time reflected on the moon and sometimes we don't see any at all.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 4 The moon makes no light…	The author says that the moon "is bright in the night sky." Why is that?	The moon looks bright because it reflects the suns light. It doesn't make any light of its own.
The moon is Earth's only…	How does the moon move?	The moon travels around, or orbits, the Earth.
Page 10 The moon appears to change shape…	What causes the moon to look like it is changing? How does the amount of light reflected on the moon change?	Different amounts of light reflected on the moon make different shapes. It depends on the position of Earth, the moon, and the sun.

Page 11	Let's look at the illustrations of the first three phases of the moon. What do we see during the New Moon phase? Why? What does a crescent moon look like? What does the first-quarter moon look like? How do the illustrations on this page help you understand what *waxing* means? *Teacher's Note: The teacher may need to tell students where the sun is located since the sun is not shown in the illustrations. The teacher may want to stick a yellow sticky note on the left side of the page to show students where the sun is. That may help students understand why only part of the moon is lit up.*	The moon is dark because it is between the sun and the Earth. Answers will vary. We can only see a little piece of the moon. It looks like half of the moon. I can see more of the moon in each phase. The lighted part of the moon is getting bigger. So *waxing* means getting bigger.
Page 12	Using the illustrations and the text, explain how the two *gibbous* moons are different? How are the two *crescent* moons different? What does *waning* mean? How do you know? When does waning start? How long does it take the moon to go through its phases?	The two gibbous moons are the same shape, but the light is on opposite sides. The crescent moons are the same shape, but the light is on opposite sides. Waning means getting smaller. There is a text feature – a caption – that tells me the definition of waning. I can also see in the illustrations that the amount of light we see on the moon is getting smaller. Waning starts after the full moon. It takes about a month for the moon to go through all its phases.
Page 13	Does the moon really change shape?	No, the moon doesn't change shape at all. The moon looks different at different times because of the amount of light from the sun we can see reflected on the moon.

RESOURCES
Additional visual examples of the phases of the moon may help students understand this pattern. Below are two short videos that explain the phases of the moon: • HTTPS://WWW.YOUTUBE.COM/WATCH?V=T6MCTB752AE • HTTPS://WWW.YOUTUBE.COM/WATCH?V=YXE0YXZYKJO

PAPA, PLEASE GET THE MOON FOR ME – READING 2, QUESTION SEQUENCE 2, DAILY TASK 19

TEXT
Text: *Papa, Please Get the Moon for Me* **Question Sequence:** Second Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD 450L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization is clear, chronological, and easy to predict. The illustrations are often essential to understanding the story. The fold-out pages make the organization of information and illustrations less traditional.	The language features are moderately complex. Some Tier II vocabulary is used (i.e.., reappear, sliver). Dialogue changes perspective and adds some complexity that could be challenging for some readers.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning of this story is moderately complex. There are two levels of meaning: 1) the willingness of Monica's father to get her whatever she wants, including climbing a ladder to get a moon, and 2) the changing shape of the moon across the story, which goes unexplained.	The knowledge demands are moderately complex. The reader needs to understand the difference in realistic stories and fantasy stories. The reader needs to understand that you can't actually "play with the moon" and that someone cannot go fetch the moon from the sky. Finally, the reader must understand that the moon appears to change over time.

LESSON OBJECTIVE(S) FOR THIS READING
Students will deepen their understanding that the moon moves through phases that create a predictable pattern. To achieve this understanding, students will: • apply information learned from *The Moon Book* to explain the events that happen in *Papa, Please Get the Moon for Me*; and • use words and illustrations from the text to make inferences about which phase of the moon is appearing at different times.

VOCABULARY WORDS
No new words will be introduced during this reading. The following words will reinforced during this reading. • near • disappeared • sliver • reappear

DAILY TASK
Write a letter to Monica explaining what is actually happening to the moon over the course of the story. In your writing, be sure to: • name your topic; • supply some facts that explain why the pattern of moon phases occurs; • include vocabulary words; and • provide a sense of closure.

POSSIBLE STUDENT RESPONSE
Dear Monica, The moon doesn't actually change shape. It goes through a pattern of phases. The moon reflects light from the sun. When we see more of the light that is reflected the moon looks bigger. This is called waxing. When we see less of that light that is reflected the moon looks smaller. This is called waning. The pattern of moon phases happens because the moon orbits the Earth. The moon is important, so it must stay in the sky. Your friend, Karen

PAGE/PART	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE

OF TEXT		
Opening page, right before the title page	Here are five small boxes with illustrationts. What do the illustrations show us?  *(This is an opportunity for a collaborative talk structure.)*	They show some of the phases of the moon. There is a crescent moon, a quarter moon, a full moon, and then another quarter moon and crescent moon. The pictures show a waxing moon and then a waning moon.
Page 2	What phase is the moon probably in? How do you know?	It is a full moon. You can see the whole moon in the illustration. It is a crescent moon. The illustration shows a small part of the moon that looks lighter than the rest of it.
Page 13 (Starts, Finally, Papa got to the moon…")	What phase is the moon probably in? How do you know?	It's probably a full moon. Papa says that the moon is big. The moon looks the biggest when we see the most light reflected on it. During a full moon the whole moon is lit up.
Page 14	The moon says, "Every night I get a little smaller." What does that mean?	The moon is saying that it is waning.
Page 16 (Reads: "and smaller."	What phases of the moon do you think are occurring now? Why? *Teacher's Note: The teacher may want to encourage students to look at the anchor chart they created with pictures of the moon phases and labels to help answer this question*.	The book says that the mon got smaller and smaller and smaller. That means it's moving from a gibbous to a quarter moon to a crescent moon.
Page 20	What phase of the moon is it now? How do you know? Did the moon really disappear? 	It is a new moon. The text says that the moon disappeared. That means we can't see it. You don't see the moon when it's a new moon. The moon didn't really disappear. We just don't see a new moon because we can't see any of the light that it reflects.
Page 22	What is happening to the moon now? How do we know?	The text says the moon reappeared. That means we can see it again. The illustration looks like a crescent moon.

Page 26	What phases of the moon do you think are occurring now? Why? (*The teacher may want to encourage students to look at the anchor chart they created with pictures of the moon phases and labels to help answer this question*.)	The book says that the moon grew and grew. That means it is waxing. Waxing means the light on the moon is getting bigger. We would see a crescent then a quarter then a gibbous.
Pages 27-28	What phase of the moon is it now? How do you know?	It's back to a full moon! The whole moon is lit up.
After Reading	Do you think the phases of the moon are a pattern? Why or why not? Are the moon phases a pattern we can predict? Why? *Teacher's Note: If students have difficulty answering this question, the teacher may want to do another repeated reading of* The Moon Book *or watch the resource videos to remind students of the phases and why they occur.*	Answers will vary. Yes, I think the phases of the moon are a pattern. There is a pattern in the amount of light we see reflected on the moon. At a full moon the whole moon is lit up. Then little by little we see less light until we can't see any light at all. That's a new moon. Then little by little we see more light until the moon is full again. The pattern in the amount of light we see is predictable because it's always the same. The phases always go in the same order because the moon always orbits around the Earth.

HOW THE MOON REGAINED HER SHAPE– READING 1, QUESTION SEQUENCE 1, DAILY TASK 20

TEXT
Text: *How the Moon Regained Her Shape* **Question Sequence:** First Read **Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
580L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. While the text occurs in chronological order, the text is not easy to predict. There are a variety of characters and names to keep track of. The illustrations support readers' understanding though can be difficult to interpret in places (i.e., the moon is illustrated as a woman rather than as a rocky sphere).	The language features of this text are very complex. The conventions of the text are fairly complex and contain abstract and figurative language (i.e., "danced across the sky", "sparkling with joy"). The Tier II vocabulary in this text is also fairly complex (i.e., stammered, tormented, dwindling). The sentence structure of this text is varied. There is a mixture of simple, compound, and complex sentences.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning of this text is very complex. The story is a legend that explains the origin of the phases of the moon. Readers have to pay close attention to language in the text related to how the moon's feelings affect her size to understand what is happening. The meaning is revealed over the entirety of the text.	The knowledge demands of this text are very complex. Readers need to be familiar with the genre of a legend. To fully understand the plot, readers need knowledge of the phases of the moon. Readers also benefit from background knowledge about eclipses, which explains why the sun becomes angry with the moon early in the story.

LESSON OBJECTIVE(S) FOR THIS READING

Students will understand that Native Americans believed the phases of the moon are caused by the moon's changing feelings.

To achieve this understanding, students will:

- identify key details in the text that explain how the moon's feelings and shape changes through the story;
- determine the meaning of unfamiliar words to better understand how the moon is feeling; and
- distinguish between details about the moon that are realistic and those that are fictional.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- twirled (embedded)
- blushed (embedded)
- stammered (embedded)
- tormented (implicit)
- skypath (embedded)
- shrink (embedded)
- comet (embedded)
- trudged (embedded)
- gleamed (embedded)
- dreamlike (embedded)
- admirers (implicit)
- dwindles (explicit)

The following words are reinforced during this reading:

- sliver

DAILY TASK

Collaborative Task

During and/or after reading, add details to the chart about what is happening to the moon. Organize them by details that are true and those that are fictional.

Details about the moon that are true	Details about the moon that are fictional

Independent Task
Both *Papa, Please Get the Moon for Me* and *How the Moon Regained Her Shape* are fictional stories that use both real and made-up details to describe the moon's phases. Write your own narrative story that describes the moon's phases.

In your writing, be sure to:
- explain the event;
- include some details that describe how the moon appears to change shape;
- use some time order words; and
- provide a sense of closure.

POSSIBLE STUDENT RESPONSE

Collaborative Task

Details about the moon that are true	Details about the moon that are fictional
• The moon appears to change shape. • The moon starts out full and then it wanes, or gets smaller. • After a new moon the moon waxes, or gets bigger. • The moon helps people and animals. It helps us see at night.	• The moon is not a person. • The moon can't talk or dance. • The moon does not have feelings.

Independent Task
There was a really big dog that lived in space. One day it saw the moon. It was really hungry and took a small bite. Then, it took another bite. It kept eating the moon until it was all gone. The dog felt bad about eating the moon. It wanted to put the moon back. The dog found a space rock and put it where the moon had been. Next, it found another rock. As the dog put more and more moon rocks together the moon started to grow. Finally, the whole moon was back.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 1	How does the author describe the moon here? Based on this description, what moon phase could she be in? Why?	She is round and full. She is proud and doesn't fear the darkness. She is a full moon. In a full moon, the moon is full of light and appears to be round like a circle.

Page 6 The moon tried…	The author says the moon "walked along her skypath". Think about other words we've learned that describe how the moon walks, or moves. What could a "skypath" be? Let's think about another word. The text says that "the sun's words tormented here". What could "tormented" mean? How do you know? How is the moon feeling? How do you know? What else is happening to the moon? Based on all this evidence from the text, what moon phase could she be in now? Why? *Teacher's Note: If students don't notice, the teacher can point out the pictures of the moon in the corner of the pages. These pictures show the phase of the moon*.	The skypath could be the moon's orbit. Torment could mean that they hurt here or torment could mean painful. The sun yelled at her and called her ugly. The sun said that no one needs the moon. Those are mean words that would make someone feel hurt. The moon feels sad. The text says that she felt very alone and she is hanging her head. The illustrations also make her look sad. The moon is shrinking. The text says she is just a sliver. *Answers may vary*. She is a gibbous. We know that the moon is waning because she is shrinking.
Page 11 The moon trudged…	Using the words and illustrations, what phase of the moon is she in when she meets Round Arms? What does this mean? *(This is an opportunity for a collaborative talk structure.)*	The text says that the moon is nearly invisible. That means we almost can't see her. The illustration in the bottom corner shows just a small part of the moon lit up. The moon is now a crescent moon.
Page 13 Round arms led the moon…	How do we know what phase the moon is in now? Did the Moon disappear? Why or why not?	Painted Deer says that he misses the moon. That must mean that the moon is gone. The illustration in the corner of the page also shows no light on the moon. This is a new moon. The moon did not disappear. It is in the new moon phase which means we don't see any light reflecting off of the moon's surface.
Page 16 The moon laughed…	How is the moon feeling now? How do we know? How are her feelings changing her shape?	The moon is feeling happier. She is laughing. The mother rabbit says she wishes the moon would come back because her light helps them find food and be safe at night. The sun told the moon that no one needed her. But the rabbit tells the moon

	What do we call a moon that is getting bigger, or one that is reflecting more light?	that she is needed. As the moon feels happier, she gets larger. Waxing.
Page 24 Her eyes sparkling…	What does it mean that the moons eyes were “sparkling with joy”? Why was the moon feeling joyful, or happy? What phase is she is in now? What does that mean? How do you know she is in that phase?	Joy means happy. Her eyes looked like she was very happy. Round Arms showed the moon that she has friends and an important job to do, just like the sun. She is in the gibbous phase. She is almost full. She is reflecting more light. The picture in the corner shows a gibbous moon. She has also gotten happier and happier since she met Round Arms. And as she’s gotten happier she’s gotten bigger. So, she must be close to a full moon.
Page 24	We have read that the Moon slowly became happy again. How did the Native American legend explain why the moon “changed shape?”	The Native American legend explained the moon phases by describing a Moon that was sad because the sun told her she wasn’t needed. As she got sad, the light she reflected got smaller. But then, different people and animals explained how they relied on her and she became happy. As she got happier and realized her importance, her light got bigger.
After reading	This story included details about the moon that were both real and fictional. Which details were real? Which weren’t? *Teacher’s Note: Add these to the chart*.	The moon really does seem to change shape. It starts out full and then it wanes. When it’s a new moon you can’t see it anymore. Then it starts waxing. It gets bigger until it’s a full moon. That’s exactly what happened to the moon in this story. Also, characters in the book said that the moon helps us see at night, which is also true. The moon doesn’t talk and it doesn’t have feelings. It cannot come out of the sky to talk and dance with people.

LOOKING THROUGH A TELESCOPE– READING 1, QUESTION SEQUENCE 1, DAILY TASK 21

TEXT
Text: *Looking Through a Telescope* **Question Sequence:** Second Read **Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
440L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. Connections between some ideas or events are implicit or subtle (for example, the use of the poem "Hey Diddle, Diddle"). Text features and graphics are simple and enhance the reader's understanding of content.	The language features of this text are moderately complex. The language is largely explicit and easy to understand. Vocabulary is mostly familiar and conversational. There are also opportunities for readers to determine the meanings of unknown words (i.e., crater, Maria). The sentence structure of the text is primarily simple. There are few compound sentences.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of the text is to explain how people can use telescopes to observe different objects in space. While not explicitly stated, this purpose is easy to infer.	The knowledge demands of this text are moderately complex. The text relies on common practical knowledge and some discipline-specific content knowledge. The text includes a mixture of simple and abstract ideas (i.e., stars are balls of gas). The text assumes some intertextual knowledge when it references the "Hey, Diddle Diddle" poem.

LESSON OBJECTIVE(S) FOR THIS READING
Students will understand that scientists collect information about earth and space in different ways. To achieve this understanding, students will: • recall key details from the text that explain how scientists make observations about earth and space; and • compare two texts to determine what kind of observations can be made using a telescope and those that can be made by space travel.

VOCABULARY WORDS

No new words are introduced during this reading.

The following words are reinforced during this reading:

- telescope
- scientists
- planet
- crater

DAILY TASK

Collaborative Task

During and after reading, record the kinds of observations that scientists can make using different scientific technologies. First, reread *Looking Through a Telescope* and review the kinds of observations scientists can make by using a telescope. Then, read *If You Decide to Go to the Moon* and identify the observations astronauts can make by traveling in space. ***This task is meant to be completed after both texts.***

Observations that can be made by a telescope *Looking Through a Telescope*	Observations that can be made by space travel *If You Decide to Go to the Moon*

Independent Task

Your parents have won a choice of two different raffle tickets. One would send you on a trip through space, the other would get you a gigantic telescope. Would you rather make observations about earth and space by using a telescope or by traveling through space? Why? Convince your parents which raffle ticket they should choose. ***This task is meant to be completed after both texts.***

In your writing, be sure to:

- state your opinion;
- include some reasons for your opinion;
- include vocabulary words from the unit; and
- provide a sense of closure.

POSSIBLE STUDENT RESPONSE

Collaborative Task

Observations that can be made by a telescope *Looking Through a Telescope*	Observations that can be made by space travel *If You Decide to Go to the Moon*
• The moon is big and has many craters • Maria on the moon • Planets • Stars	

Independent Task

I would rather travel in space than look through a telescope. When you fly in a spaceship you can see the moon up close. You can learn things that you couldn't learn by just looking through a telescope, like that the moon has no air and there are no sounds on the moon. You can also see more stars when you are in space. I want to travel in space! Please mom and dad, choose the trip through space!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
	Teacher's Script: "One important thing we've learned in this unit is that there is so much to learn about Earth and space. Scientists make observations and learn about earth and space in different ways. Today we will think about the different ways scientists discover information about earth and space."	
Page 12	What is a telescope? In your own words, think of a definition for the word "telescope". Then, tell it to your partner.	A telescope is a tool that you look through. It shows you things that are far away.
Page 17	What kind of observations can we make using a telescope? What words or sentences could we add to our chart? *(This is an opportunity for a collaborative talk structure.)*	We can observe that the moon is big, round, and has many craters. We can observe maria on the moon, which are large areas of dark rock.
Page 21	What else did we learn about the kinds of observations we can make with a telescope?	With a telescope we can see planets, like Saturn, and stars.

	What words or sentences could we add to our chart? 	
Page 26	What can we observe with the Hubble Telescope? How is the Hubble Telescope unique?	The Hubble Telescope has taken pictures of clouds of gas, dust, and stars. The Hubble Telescope is unique because it is in space. Other telescopes are on earth.
Page 28	The text asks, "What do you want to look at through a telescope." Which space object that the book talks about do you most want to see? Why?	*Answers will vary*. I want to use a telescope to look at stars. The text says that stars are balls of gas. I've never seen a ball of gas and I wonder what it looks like.

ALTERNATIVE SHARED READING OPTIONS
Teachers can choose to break apart this shared read into two readings. During the first read, students can read pages 3-17. For the second read, students can read pages 18-31.

IF YOU DECIDE TO GO TO THE MOON – READING 1, QUESTION SEQUENCE 1, DAILY TASK 21

TEXT
Text: *If You Decide to Go to the Moon* **Question Sequence:** First Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
420L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The structure of this text is moderately complex. Most of the story is chronological. There are two storylines: 1) the main character travels to the moon, and 2) the main character returns to the Earth and marvels at the characteristics that make Earth a great place to live.	The language features are very complex. Figurative language is used throughout the text (i.e., "feels like swimming in a dream"). Both Tier II (i.e., mixture, eerie, jagged) and Tier III (i.e., meteors, comets, gravity) words are woven throughout the narrative.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose is moderately complex. The purpose of this text is for the reader to understand the differences between Earth and the moon by situating the reader as an astronaut experiencing life on Earth, in a spaceship, and on the moon. The text shares information about the moon while also encouraging people to appreciate the Earth as a place to live and to take care of it.	The knowledge demands are very complex. The text assumes background knowledge related to space travel, characteristics of space (i.e., there is no night in space), and characteristics of the moon (i.e., gravity).

LESSON OBJECTIVE(S) FOR THIS READING

Students will build on the understanding that scientists collect information about earth and space in different ways.

To achieve this understanding, students will:

- use words and phrases from the text to describe how space travel allows us to know more about the universe;
- compare two texts to determine what kind of observations can be made using a telescope and those that can be made by space travel; and
- synthesize information from across texts to form an opinion.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- shield (embedded)
- sizzle (embedded)
- freeze (embedded)
- horizon (embedded)
- atmosphere (implicit)

The following words are reinforced during this reading:

- craters

DAILY TASK

Collaborative Task: During and after reading, record the kinds of observations that scientists can make using different scientific technologies. First, reread *Looking Through a Telescope* and review the kinds of observations scientists can make by using a telescope. Then, read *If You Decide to Go to the Moon* and identify the observations astronauts can make by traveling in space. ***This task is meant to be completed after both texts.***

Observations that can be made by a telescope *Looking Through a Telescope*	Observations that can be made by space travel *If You Decide to Go to the Moon*

Independent Task:
Your parents have won a choice of two different raffle tickets. One would send you on a trip through space, the other would get you a gigantic telescope. Would you rather make observations about earth

and space by using a telescope or by traveling through space? Why? Convince your parents which raffle ticket they should choose. ***This task is meant to be completed after both texts.***

In your writing, be sure to:

- state your opinion;
- include some reasons for your opinion;
- include vocabulary words from the unit; and
- provide a sense of closure.

POSSIBLE STUDENT RESPONSE

Collaborative Task

Observations that can be made by a telescope *Looking Through a Telescope*	Observations that can be made by space travel *If You Decide to Go to the Moon*
• The moon is big and has many craters • Maria on the moon • Planets • Stars	• Space is dark • Comets and meteors • There are mountains and valleys on the moon • The moon is lifeless • There is no air on the moon • Without protection you will burn on the moon

Independent Task

I would rather travel in space than look through a telescope. When you fly in a spaceship you can see the moon up close. You can learn things that you couldn't learn by just looking through a telescope, like that the moon has no air and there are no sounds on the moon. You can also see more stars when you are in space. I want to travel in space! Please mom and dad, choose the trip through space!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Page 2	What is the author going to tell us in this narrative?	The author will tell us what you will need to go to the moon, how to get there, what to do after you land, and how to get home.
Page 8	The text lists several objects in outer space. What are some of the space objects the boy may see?	He would see that space is mainly dark. He might also see rocks, called meteors, and comets, which are chunks of ice. The boy can also see millions of stars that look like fireflies.

Page 9	What might the main character observe about the sun and the moon? Use text evidence in your answer. What words or sentences could we add to our chart about the kinds of observations you can make through space travel?  *(This is an opportunity for a collaborative talk structure.)*	He might observe that the sun blazes with fiery light and the moon glows like a pearl. He also might notice that the moon doesn't have its own light. It reflects the sun's light.
Page 17	What does the text say you might see on the moon? How does this connect to other texts we've read about the moon? Use information from the text, what are craters?	The text says you might see an endless desert that is silvery gray. It is covered in rocks and round craters. *The Moon Book* also shared that the moon is made of rock and dust. It also said that the moon's surface shows dark patches called plains or seas. There are also craters, mountains, and valleys on the moon. Craters are holes made by meteors that have rained down on the moon.
Page 20	Why does the author tell you astronauts should not remove their space suits? What does the word *shield* mean in this text? How does this word help you know more about the moon?	Astronauts shouldn't remove their space suits because they would burn up in the heat of the sun. Shield means to hide or act as a protection. The moon doesn't have clouds to shield, or protect, it from the heat of the sun or the cold of space.
Page 24-25	Let's think about the words and illustrations from the last few pages *(may refer back to pages 20-25).* What observations is the boy making about the moon? Use the words and illustrations to justify your answer. Let's use this information to add more notes to our chart. What should we write? 	**Answers may vary depending on the portion of the text the students refer to.* The author says there is "blackness in space." The author describes the moon as "lifeless and still." Finally, the illustration on page 25 shows how the "hills stretch on and on."

Page 30	What observations did the boy make about the Earth while he was in space?	The boy was able to see that Earth was surrounded by stars and was shining like a blue and white ball. He could also see the continents and oceans, as well as the clouds, rain, and wind moving across Earth's atmosphere.
After reading	Why are observations about the earth and space important?	*Answers will vary*. The more observations we make about earth and space the more we learn about our world.

END-OF-UNIT TASK

Note: The end-of-unit task gives students the opportunity to answer the essential questions for the unit and to demonstrate their understanding of the unit concepts. The end-of-unit task prompts student thinking, speaking, and writing about unit texts that reflects the demands of the grade-level literacy standards. In addition, the end-of-unit task provides students a chance to demonstrate their understanding in an authentic and meaningful context.

END-OF-UNIT TASK

Part 1:

You are an astronomer working for U.S. Space and Rocket Center. You have been asked to create a student-friendly brochure that you will share with students during a school field trip that explains (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. Use illustrations and descriptions to explain these observable patterns. Your brochure should include:

- a front cover that illustrates and names the topic of the brochure;
- a section that illustrates and describes observable patterns from the day and night sky and explains why we observe those patterns;
- a section that illustrates and describes the pattern in Earth's seasons and explains why changes in season occur; and
- a section that illustrates and describes phases of the moon and explains why we observe those patterns.

Be sure to:

- provide some sense of closure;
- use details from the texts we have read; and
- use vocabulary words from the word display in our unit.

Part 2:

When you're almost finished with your brochure, practice presenting your information to a co-worker (student partner) before you deliver it to the students on the field trip. Seek your co-worker's feedback on your writing.

POSSIBLE STUDENT RESPONSE

Side 1 of Brochure

Front Cover	*Back of Brochure*	*Outside Fold*
Observable Patterns in the Night Sky		**Conclusion** There are many observable patterns in the sky. We can see these patterns using tools and with our eyes.

Side 2 of Brochure

Inside Left Fold	*Inside Center Fold*	*Inside Right Fold*
Patterns in the Day and Night Sky Earth has day and night because earth rotates on its axis. Earth is round. Only half of it can face the sun. The part that faces toward the sun has day. The part that faces away has night. Every 24 hours the earth rotates from day to night. Other patterns in the night sky are stars. Some stars form shapes, like the Big Dipper and Ursa Major.	**Patterns in the Seasons** The Earth tilts. When it tilts toward the sun there is more sunlight and warmth. It is summer. Because the earth revolves around the sun the part that tilts toward the sun moves. Soon it is tilting away from the sun. When it tilts away from the sun it gets less sunshine and it is colder. It is winter.	**The Phases of the Moon** There are eight phases of the moon. The moon seems to change shape during each phase, but it doesn't. The moon looks different because it orbits the earth. That means it revolves around the earth. The part of the moon that we can see changes as the moon orbits. Sometimes we can see all the light on the moon. That's a full moon. Sometimes we can't see any light on the moon. That's a new moon.

Students will add illustrations to support their written explanations.

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END-OF-UNIT TASK RUBRIC

Note: The end-of-unit task rubric is designed to support educators in determining the extent to which students' responses meet the grade-level expectations. This rubric will also help teachers analyze the extent to which each student understands the unit concepts and understandings.

Directions: After reading and reflecting on the student work sample, score each area and total the rubric score at the bottom. Note that this rubric is designed to look at student work samples in a holistic manner.

	Below Expectation (0)	Needs More Time (1)	Meets Expectation (2)	Above Expectation (3)
Content (Text-based evidence)	The response: • **does not explain** (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. • includes **few** supporting details or evidence from the unit's texts.	The response: • **partially explains** (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. • includes **some** supporting details or evidence from the unit's texts.	The response: • **adequately explains** (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. • includes **sufficient** supporting details or evidence from the unit's texts.	The response: • **effectively explains** (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. • includes **many** examples of supporting details or evidence from the unit's texts that demonstrate **command of content**.
Word Choice (Content Vocabulary)	The response includes **no** use of content vocabulary (e.g., *patterns, phases, tilts, rotates).*	The response includes **some** use of content vocabulary (e.g., *patterns, phases, tilts, rotates).*	The response includes **sufficient** use of content vocabulary (e.g., *patterns, phases, tilts, rotates).*	The response includes **various** and **effective** use of content vocabulary (e.g., *patterns, phases, tilts, rotates).*
Mechanics (See standard 1.FL.SC.6.a-l)	The response demonstrates **limited** command of the conventions of standard, grade-level English grammar and usage when speaking and conventions of standard English grammar and usage, including capitalization and punctuation, when writing.	The response demonstrates **some** command of the conventions of standard, grade-level English grammar and usage when speaking and conventions of standard English grammar and usage, including capitalization and punctuation, when writing.	The response demonstrates **adequate** command of the conventions of standard, grade-level English grammar and usage when speaking and conventions of standard English grammar and usage, including capitalization and punctuation, when writing.	The response demonstrates **consistent** command of the conventions of standard, grade-level English grammar and usage when speaking and conventions of standard English grammar and usage, including capitalization and punctuation, when writing.
Structure	Student work includes **no** or **few** of the following elements: • a front cover that illustrates and names the topic of the brochure;	Student work includes **some** of the following elements: • a front cover that illustrates and names the topic of the brochure;	Student work includes **most** of the following elements: • a front cover that illustrates and names the topic of the brochure;	Student work includes **all** of the following elements: • a front cover that illustrates and names the topic of the brochure;

	• a section on patterns in the day and night sky; • a section on phases of the moon; • a section on seasons that impact the Earth; and/or • some sense of closure that explains why these observable patterns need to be analyzed.	• a section on patterns in the day and night sky; • a section on phases of the moon; • a section on seasons that impact the Earth; and/or • some sense of closure that explains why these observable patterns need to be analyzed.	• a section on patterns in the day and night sky; • a section on phases of the moon; • a section on seasons that impact the Earth; and/or • some sense of closure that explains why these observable patterns need to be analyzed.	• a section on patterns in the day and night sky; • a section on phases of the moon; • a section on seasons that impact the Earth; and • some sense of closure that explains why these observable patterns need to be analyzed.

APPENDIX A: UNIT PREPARATION PROTOCOL

Question 1: What will students learn during my unit?

Review the content goals for the unit and identify the desired results for learners.	
• What are the concepts around which I will organize my unit (*universal concept, unit concept*)? • What will students come to understand through deep exploration of these concepts (*essential questions, enduring understandings*)?* • What disciplinary knowledge will focus instruction and provide the schema for students to organize and anchor new words (*guiding questions, disciplinary understandings*)? • Why is this content important for students to know? *Adapted from McTighe, J. & Seif, E. (2011), Wiggins, G. & McTighe (2013).	

Question 2: How will students demonstrate their learning at the end of my unit?

Review the end-of-unit task and the exemplar response to determine how students will demonstrate their learning.	
• How does the task integrate the grade-level standards for reading, writing, speaking and listening, and/or foundational literacy in service of deep understanding of the unit texts and concepts? • How does the task call for students to synthesize their learning across texts to demonstrate their understanding of the unit concept? • How does the task call for students to use appropriate details and elaborate on their thinking sufficiently? • How does the task prompt student thinking and writing that reflects the grade-level expectations? • What is the criteria for success on this task? What does an excellent response look/sound like?	

Question 3: How will students build knowledge and vocabulary over the course of the unit?

Read each of the texts for the unit and consider how the texts are thoughtfully sequenced to build world and word knowledge.	
• How are the texts sequenced to build knowledge around the unit concepts? • How are the texts sequenced to support students in developing academic and domain-specific vocabulary? • Which instructional strategies are suggested for each text? How will I sequence them within the literacy block?	

Question 4: What makes the text complex?

You are now ready to prepare at the lesson level. To do this, revisit the individual text. Review the text complexity analysis and read the desired understandings for the reading.	
• What aspects of this text (structure, features, meaning/purpose, and knowledge) are the most complex? • What aspects of the text are most critical for students to comprehend to ensure they arrive at the desired understanding(s) for the reading? • Where might you need to spend time and focus students' attention to ensure they comprehend the text?	

Question 5: How will I help students access complex texts during daily instruction?

Review the question sequence and reflect on how the questions support students in accessing the text.	
• How does the question sequence support students in accessing the text and developing the desired understanding(s) of the reading? • How does the question sequence attend to words, phrases, and sentences that will support students in building vocabulary and knowledge? • How are the questions skillfully sequenced to guide students to the desired understanding(s) of the reading? • How will you ensure all students engage with the questions that are most essential to the objectives of the lesson? (Consider structures such as turn and talk, stop and jot, etc.) • How will you consider additional texts, or additional reads of the text, to ensure students fully access and deeply understand the text? • Are there any additional supports (e.g., modeling, re-reading parts of the text) that students will need in order to develop an understanding of the big ideas of the text and the enduring understandings of the unit?	

Question 6: How will students demonstrate their learning during the lesson?

Review the daily task for the lesson to determine what students will be able to do at the end of the lesson.	
• How does the task require students to demonstrate their new or refined understanding? • How does the task call for students to use appropriate details and elaborate on their thinking sufficiently? • How does the task prompt student thinking and writing that reflects the grade-level expectations? • How does this task build on prior learning in the unit/prepare students for success on the end-of-unit task? • How will students demonstrate their learning during other parts of the lesson? • What is the criteria for success on this task? What does an excellent response look/sound like?	

Question 7: What do my students already know, and what are they already able to do?

Consider what your students already know and what they are already able to do to support productive engagement with the resources in the Unit Starter.	
• What knowledge do my students need to have prior to this unit? • What do my students already know? What are they already able to do? • Given this, which/what components of these texts might be challenging? Which/what components of these tasks might be challenging? • What supports will I plan for my students (e.g., shifting to a different level of cognitive demand, adding or adjusting talking structures, adding or adjusting accountable talk stems into student discussions, providing specific academic feedback, or adding or adjusting scaffolded support)? • How can the questions and tasks provided in the Unit Starter inform adjustments to upcoming lessons?	

Question 8: What content do I need to brush up on before teaching this unit?

Determine what knowledge you as the teacher need to build before having students engaged with these resources.	
• What knowledge and understandings about the content do I need to build? • What action steps can I take to develop my knowledge? • What resources and support will I seek out?	

APPENDIX B: LESSON PREPARATION PROTOCOL

Question 1: What will students learn during this lesson?

Review the desired understanding(s) for the reading. Then, read the daily task and the desired student response.	
• What is the desired understanding(s) for this reading? • How does this desired understanding build off what students have already learned? What new understandings will students develop during this reading? • How will my students demonstrate their learning at the end of the lesson? • How does the desired understanding for this reading fit within the larger context of the unit?	

Question 2: How might features of the text help or hold students back from building the disciplinary and/or enduring understandings?

Read and annotate the lesson text and review the associated text complexity analysis.	
• Where in the text will students be asked to make connections to what they already know? Where in the text will students build new knowledge? • What aspects of the text (structure, features, meaning/purpose, knowledge) might help or hold students back from building the disciplinary and/or enduring understandings? • Where do I need to focus students' time and attention during the read aloud/shared reading?	

Question 3: How will I support students in accessing this text, so they can build the disciplinary and/or enduring understandings?

Read through the question sequence and the desired student responses.	
• Which questions are crucial and most aligned to the desired understandings? What thinking will students need to do to answer the most important questions? • Which questions target the aspects of the text that may hold students back from building the desired disciplinary and/or enduring understandings? • Are there adjustments I need to make to the questions or their order to meet the needs of my students while assuring students are still responsible for thinking deeply about the content? • What do I expect to hear in students' responses? How will I support to students who provide partial or incomplete responses in developing a fuller response?	

APPENDIX C: USEFUL PROCEDURAL EXAMPLES FOR EXPLICIT VOCABULARY INSTRUCTION

Example 1:

- Contextualize the word for its role in the text.
- Provide a student-friendly definition, description, explanation, or example of the new term along with a nonlinguistic representation and a gesture.
- Provide additional examples, and ask students to provide their own examples of the word.
- Construct a picture, symbol, or graphic to represent the word.
- Engage students in lively ways to utilize the new word immediately.
- Provide multiple exposures to the word over time.

-Beck et al., 2002; Marzano, 2004

For a specific example, see the shared reading webinar presentation found here.

Example 2:

- Say the word; teach pronunciation.
- Class repeats the word.
- Display the word with a visual, read the word, and say the definition using a complete sentence.
- Have the class say the word and repeat the definition.
- Use the word in a sentence: the context of the sentence should be something students know and can connect with.
- Add a gesture to the definition, and repeat the definition with the gesture.
- Students repeat the definition with the gesture.
- Have student partners take turns teaching the word to each other and using the word in a sentence they create.
- Explain how the word will be used in the text, either by reading the sentence in which it appears or explaining the context in which it appears.

- Adapted from *50 Nifty Speaking and Listening Activities* by Judi Dodson